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AMERICAN PEREGRINE FALCON RECOVERY PLAN

(ROCKY MOUNTAIN SOUTHWEST POPULATIONS)

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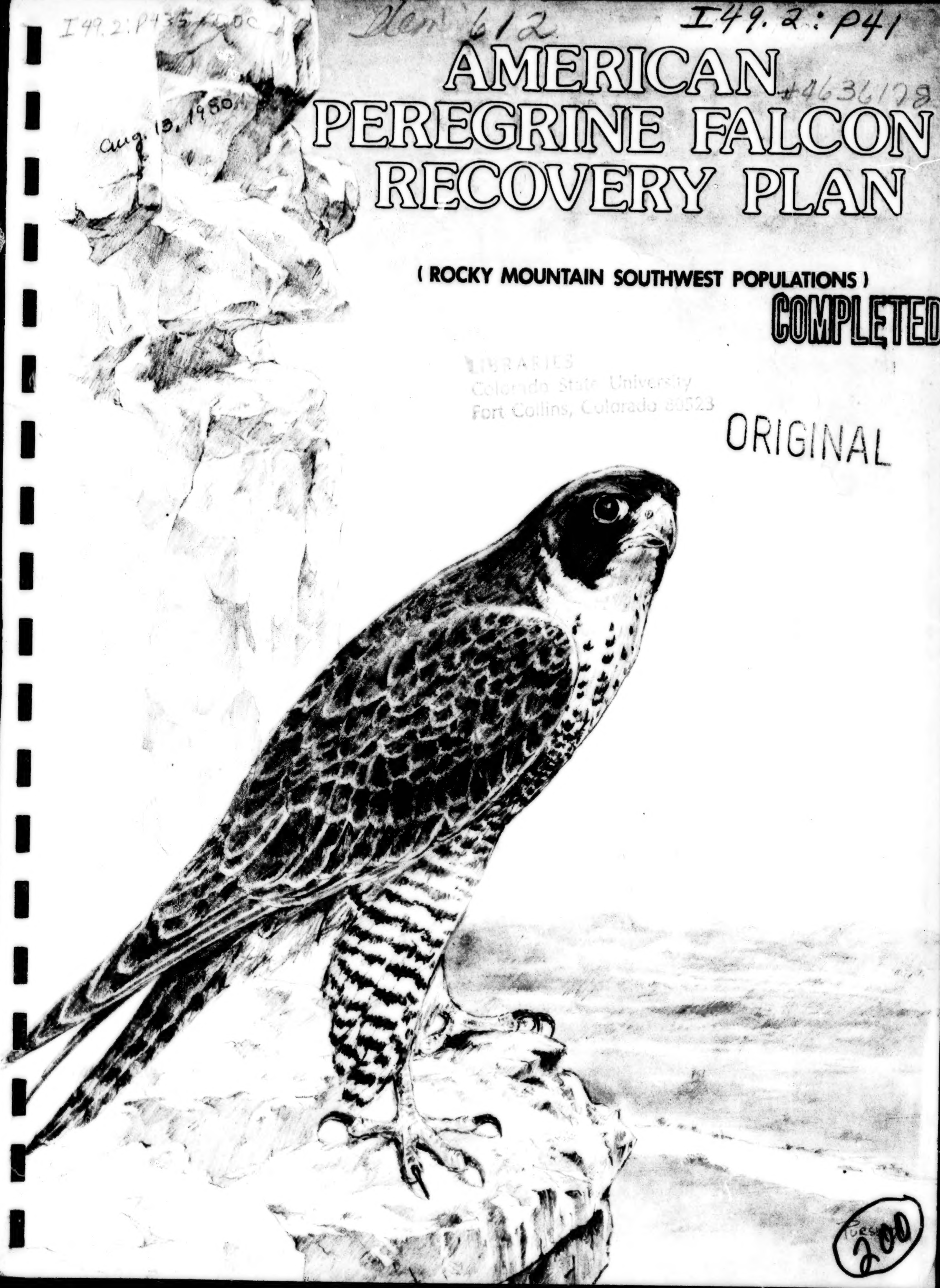

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AMERICAN PEREGRINE FALCON

Rocky Mountain and Southwest Population

RECOVERY PLAN

Prepared by the

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PREFACE

This plan outlines the various tasks which must be accomplished to affect the recovery of the American peregrine falcon (Falco peregrinus anatum). While the plan may appear ambitious, there are four priority programs which must be funded and implemented to halt the continuing population decline. These programs include: 1. International coordination to eliminate application of persistent pesticides, especially in Latin American countries where peregrines and their prey may winter; 2. An information and education program to educate the public of the plight of the peregrine and obtain support for recovery efforts; 3. Continue a captive propagation and release program to augment the declining population; and 4. Monitor the existing wild populations; and 5. Protection and enhancement of existing habitat.

ACKNOWLEDGMENTS

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ABSTRACT

This Recovery Plan for the peregrine falcon is the work of a team of biologists appointed as an autonomous group by the U. S. Fish and Wildlife Service. The goal is to affect a population recovery of the species in Arizona, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Oklahoma, Texas, Utah and Wyoming. The Plan includes an account of the peregrine's history, biology, present status, and the adverse factors causing its endangered status. The necessary recovery actions are stated in a step-down outline and described in a narrative section. It is not the responsibility of the Recovery Team to implement this plan. Implementation of the plan will be the responsibility of the various state and federal agencies. A schedule of their estimated costs is provided.

Historically about 180 known pairs of peregrines nested in the Rocky Mountain/Southwest Region and fewer than 30 pairs, most on public lands, are known at present. Evidence of a gradual decline of the species in some parts of the region prior to the DDT era, correlated perhaps with higher mean temperatures and lower precipitation, is minor relative to the data linking DDT, eggshell thinning, poor reproductivity, and the population crash since 1950. We anticipate further decline to extinction in view of prevalent DDT contamination of this species in the region unless management action is undertaken and sustained immediately. We seek to effect a population increase to about one-half of the known 180 historical pairs.

In essence, the Plan calls for the direct protection of peregrines and their habitat, action to increase natural reproductivity, and the expansion of a captive breeding and release system. These three measures have emergency priority. Nesting peregrines are vulnerable to human activities, sometimes require continual surveillance, and always require systematic reconnaissance if we are to remain aware of their status and alert to potential unfavorable changes in their habitat. Natural reproduction can surely be enhanced by artificial incubation of eggs and return of young to the care of adults. Removal of clutches stimulates the laying of second sets of eggs, providing extra eggs for incubation and subsequent allocation to wild pairs. Captive breeding technology is now beyond the experimental stage; a breeding stock of anatum peregrines is now being produced, and release techniques are being tested. Thus far, funding of captive breeding of anatum peregrines has involved primarily only a few agencies in support of the Cornell University - Peregrine Fund project and a few smaller projects. Some

funding has come from the private sector, but overall, support has been haphazard -- a condition this Plan seeks to remedy.

The Plan also urges a continuing evaluation of DDT contamination of peregrines and their prey. Meager data suggest extreme levels of DDT in this remnant population, but its source, through prey analysis, awaits description. The Plan recognizes that, ultimately, public interest and enthusiasm is necessary for continual long-term support and funding of the recovery operation. The Plan provides guidance for the establishment of a public information system.

The Plan outlines estimated costs over the initial five-year period and suggests specific costs to responsible agencies. The top priority tasks -- protection of nesting peregrines and their habitat, activities to increase natural production, and expansion of captive breeding and release operations -- total about $200,000 for the first year, a sum to be shared among agencies. These actions will costs about $1 million over the five-year period. Other costs, including activities not of an emergency nature such as biological studies and public information, total about $2 million over five years, which includes approximately $300,000 the first year. These costs cannot be borne solely by the Office of Endangered Species and International Activities, U. S. Fish and Wildlife Service. Its role must be to obtain and coordinate funding for the recovery operation from other federal and state agencies.

The Recovery Team is optimistic that the peregrine population in the region can be returned to much higher and safer numbers over a period of two decades. Short term recovery seems impossible, even with a full recovery operation, and a continued, enthusiastic and skillful effort will be required.

INTRODUCTION

The Peregrine Falcon (Falco peregrinus) bred historically in nearly every state of the Union, and undoubtedly in North America its presence extended back thousands of years into the Pleistocene Ice Age. The vagaries of the peregrine's existence in North America were vastly increased after human expansion in the last century. This adaptable species thrived for many decades in North America and in the Old World despite extensive persecution by man and by human trespass against its habitat. But in the early 1950's, the breeding populations throughout much of the Northern Hemisphere began an unprecedented and precipitous decline. This decline was revealed at a symposium at Madison, Wisconsin (Hickey 1969) in 1964 to discuss the status of the peregrine, the causes of its decline, and its future.

Three more or less distinct races (subspecies) of peregrines occur in North America. F. peregrinus anatum which occurs from Mexico north to the arctic tundra has shown the most drastic decline. A highly migratory tundra form, F. p. tundrius, has decreased substantially over broad regions. The coastal race (F. p. pealei) of the Pacific Northwest and the Aleutian Islands, more resident in nature, has declined only locally but is generally abundant.

Both the anatum and tundrius races have been placed on the U. S. Fish and Wildlife Service's Endangered Species list. With the enactment of the Endangered Species Act of 1973, recovery teams were assigned to develop comprehensive plans of action needed to bring about restoration of peregrines. This Recovery Team was charged with the development of a Recovery Plan for species in the Rocky Mountain/Southwest Region (Idaho, Utah, Arizona, Colorado, New Mexico, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Montana, Oklahoma and Texas).

Prehistory

The peregrine was present in the Western United States at least 30,000 years ago (Brodkorb 1963). Vertebrate fossils, including a peregrine, from the late Pleistocene American Falls bed B (Idaho) have been dated as having an age greater than 29,700 years (Brodkorb 1963). The species was also found at the LaBrea Tar Pits (California) where Pleistocene remains are believed to range from 5,000 to 40,000 years old (Berger and Libby 1966; Ho, Marcus and Berger 1969; Downs and Miller 1971).

Remains of peregrines have also been found in Indian caves and middens. A peregrine feather was uncovered in the Hogup Cave at the northwestern side of the Great Salt Lake (Baldwin 1970) in a stratum estimated by radio-carbon dating to have been deposited sometime between 3,000 and 4,000 years ago (1250 - 2000 B.C.) (Aikens 1970, Baldwin 1970). Two specimens were found in Utah, one in Black Rock Cave which is located 60 feet above the Stansbury terrace of ancient Lake Bonneville, and the second at the south end of the Great Salt Lake (Steward 1937). Since the specimens were within eight inches of the surface, they are believed to have been deposited rather recently. Remains of two peregrines were uncovered at the Indian Shell Mounds in California. These mounds are believed to be less than 1,000 years old (Howard 1929).

Early History - 19th Century

Probably the earliest record of the species in the western United States is a specimen from the Columbia River taken in 1836 (Townsend 1837). The earliest reported nesting was in Wyoming (Montana?) along Big Sandy in 1840 (Nuttall 1840). Specimens were also collected in the first half of the 19th century in California, Washington and Oregon. Peregrines were reported in 1858 in the state of Washington as Falco nigriceps - Cassin by Baird (1858). The species was reported in 1846 in upper California where it nested along the coast (Proc. Acad. Nat. Sci. Phila., Vol. 3, 1846, p. 46).

Ridgway (1877), serving as ornithologist for the Clarence King Geological Exploration of the Fortieth Parallel, was next to report the species. The region covered by the expedition (from June 1867 through August 1869) was between Sacramento, California, and Salt Lake City, Utah. Ridgway encountered peregrines at only a few places in Nevada, including Truckee Reservation near Pyramid Lake. On 23 May 1868, he found a pair nesting on "The Pyramid", an island, from which Fremont had earlier named the lake. A juvenile male was collected and another juvenile was seen striking a killdeer (Charadrius vociferus) at the Big Bend of the Truckee on 23 July 1857 (sic 1867). Ridgway (1877:360) considered the species **rare** in the Ruby Mountains (6,300 feet in elevation). He elsewhere states (1877:575) that "peregrines were encountered only at Pyramid Lake and along the lower portion of the Truckee River."

J. A. Allen, with a Harvard Museum of Comparative Zoology expedition to the Rocky Mountains, 1 May 1871 to 15 January 1872, was apparently the next to report peregrines in the West. He collected birds and took notes at nine widely separated localities in Kansas, Colorado, Wyoming and Utah. He reported a pair on 29 May 1871, with half-grown young in a stick nest on a high cliff near the Saline River in the vicinity of Fort Hays, Kansas (Allen 1872 a, b). He found the peregrine present, but not common, in northwestern Kansas between 25 December and 12 January. He noted a single individual at Cheyenne, Wyoming on 20 August 1872. In Colorado during July and August, he saw peregrines at the Garden of the Gods, Castle Rock and on Bear Creek in the foothills southwest of Denver. He collected a specimen of a young bird at Fairplay. In Utah, Allen (1872 a, b) reported peregrines to be common about the marshes of the Great

Salt Lake (near Ogden) in September, preying on waterfowl. Porter and White (1973) pointed out that Allen (1872 a, b) did not report prairie falcons (*Falco mexicanus*) during his long expedition to Utah.

In 1875, Goss (1878) found peregrines nesting at Neosho Falls, Kansas.

Cooke (1897) considered the peregrine to be locally common in Colorado. He reported that W. P. Lowe found a nest and young in St. Charles Canyon near Pueblo during the summer of 1895; and that D. Gale took a set of eggs on the Poudre River, 30 April 1889. Gale collected a set of four eggs (now labelled "peregrine" in the U. S. National Museum) in 1889 (Hickey 1969:44) at Gold Hill, Colorado. Cooke (1897) noted that others reported the peregrine breeding up to 10,000 feet in the mountains of Colorado.

Allen (1874) noted a pair of peregrines on the Big Muddy, a tributary of the Missouri River in Montana, between 28 June and 1 July 1873. He also saw a pair once or twice near the Great Bend of the Musselshell the same year. In 1874 on the northern tributaries of Two Forks of the Milk River in Montana, Coues (1874) collected an adult and two young and captured a third young. Two days later he found a second eyrie on the ground containing three young along the Milk River and captured one of the females. Bendire (1892) reported that "a number of these birds bred on the sandstone cliffs above the Falls of the Missouri in Montana" and found two eggs and two newly-hatched young. Bendire (1877) considered the species rare in the Harney Valley of Oregon and took a set of three eggs from a basalt cliff near Malheur Lake on 24 April 1877. Merrill (1888) reported it as common at Fort Klamath, Oregon.

Mearns (1890) was the first to record the peregrine nesting in Arizona. He reported that it nested at all altitudes and bred regularly on cliffs near Fort Verde at an altitude of 3,400 feet. The presence of peregrines at Fort Verde is confirmed by Fisher (1893) who reported on the stomach contents of at least seven specimens collected there in 1884 (13 August, 15 September), 1885 (10 and 30 July), 1886 (27 May and 2 August) and 1887 (11 May). A specimen shot by Mearns at Tucson, 7 May 1885, was perhaps nesting in the Santa Catalina Mountains. Fisher also reported on the stomach contents of a specimen taken at Tucson on 7 May 1885.

Recent History - 20th Century

Few studies were published on peregrines in western United States prior to 1945. Most earlier accounts dealt with distributional records, aspects of peregrine biology, and nesting locations.

Arizona: Published accounts of breeding peregrines in Arizona are nearly non-existent. Brandt (1951) reported peregrines in the Chiricahua Mountains during the summers of 1947 and 1948. Phillips et al. (1964) stated that peregrines rarely nested throughout the state, but he gave no localities.

Colorado: Gregg (1938) reported two pairs in Rocky Mountain National Park at Specimen Mountain and Stanley Meadow. Sclater (1912) wrote of a pair that nested in the Garden of the Gods for five years. Aiken and Warren (1914) also found peregrines there in 1879, and reported that Minot secured a specimen shortly afterwards and another in 1884. Aiken and Warren indicated that one was killed near Peyton, Colorado, in July 1912. Bailey and Niedrach (1946) noted a pair nesting at Chimney Rock in 1943. French (1951) reported a pair nesting near Boulder between 9-21 May 1950. Enderson (1965) and Enderson and Craig (1974) have reported on the status of the peregrine in Colorado from 1964 to 1973.

Idaho: There are no published accounts of the peregrine nesting in Idaho prior to those of Nelson (1969). Later, the species was reported at Cataldo on 21 May 1949 (Burleigh 1972) and at Wilson Lake, Jerome County, on 7 July 1949 (Levy 1950).

Kansas: There are no reports of peregrines nesting in Kansas in the present century.

Montana: Silloway (1903) noted a peregrine high in a bluff near Big Spring Creek in Fergus County on 7 May 1900. Two sets of eggs, both taken at Chinook, are present in museums (J. J. Hickey, Notes). One set, collected 19 May 1905, is in the American Museum of Natural History (AMNH) and the other, collected 7 May 1906, is in the Philadelphia Academy of Natural Sciences. Another set, taken at Battle Creek, Blaine County, on 19 May (year unknown) is also in the Philadelphia Academy of Natural Sciences. Two additional clutches were obtained in Blaine County, one 16 May 1912 and the other 2 May 1915 (AMNH coll. #8361). Cameron (1907) reported the species breeding in the badlands of Montana (Custer and Dawson Counties) and nesting not far from the Terry ferry boat crossing in Prairie County. Saunders (1911) reported a nest on limestone cliffs on Squaw Creek, Gallatin County, where it was fairly common.

Nebraska: The only nesting record in Nebraska is a pair with young that were collected 8 miles west of Fort Robinson in Dawes County between 5 and 19 August 1903.

New Mexico: Wetmore (1920) found peregrines at Burford Lake in May and June 1918. Ligon (1961) reported a pair nesting at Seven Springs State Fish Hatchery on 18 July 1921. He suspected a pair on the Gila River near the junction of the West, Middle, and East Forks, and found birds near Datil in 1951.

North Dakota: Strong (1923) said four eggs were collected in Stark County on 29 May 1902 and that three clutches in the Harvard Museum of Comparative Zoology were collected in Stark County by L. Dodd in 1900. Gabrielson and Jewett (1924) collected four young and an adult in Oakdale County in 1913. Schmidt (1904) found three pairs in the Red River Valley and the Missouri River Basin.

Oklahoma: Peregrines are not known to have nested in Oklahoma (Sutton 1957).

South Dakota: Patton (1926) found a pair nesting in South Dakota on Slim Butte Range, Harding County. Pettingill and Whitney (1965) reported that a pair nested in the Black Hills.

Texas: In 1908 G. A. Abbott collected four eggs 70 miles northwest of San Antonio. Van Tyne and Sutton (1937) reported the species nesting in the Chisos Mountains, Brewster County, and Bent (1938) noted peregrines at Boquillas Canyon, Big Bend National Park. Brandt (1940) noted peregrines in the Chisos Mountains in the 1930's, and Porter (pers. comm.) saw them at Boquillas Canyon in the late 1950's. Wauer (1973) summarized peregrine nesting status in West Texas. His estimate of 12 to 15 active nests agrees with Hunt (in press). Hickey (notes) mentions that a female specimen was collected 23 May 1902 at Cameron.

Utah: Johnson (1899) collected eggs on the southwest side of Utah Lake in 1898 and 1899. Grater (1947) saw peregrines in the summer of 1939 at Angel's Landing in Zion Canyon, Washington County. Wauer and Carter (1965) reported this site in 1964. Peregrines still breed in southwestern Utah (Scott and Kertell pers. comm. 1975). Nelson (1969) located nine or ten eyries surrounding the Utah and Great Salt Lakes during the period 1939 to 1942. Treganza (in litt., 5 June 1930, Woodbury et al., unpubl. ms.) found at least four eyries between Brigham City and Ogden (White 1969). Twomey (1942) reported an eyrie on the Green River near Vernal. In southern Utah, observations of single falcons were reported by Porter and White (1973) at various locations. Woodbury and Russell (1945) saw peregrines in July and August at Navajo Mountain, San Juan County. White and

Lloyd (1962) mentioned dead young at an eyrie in the Colorado Basin. W. P. Nicholl reported seeing an adult peregrine with young nesting on the Mormon Temple in Salt Lake City on 18 July 1951 (Enderson, *pers*. *comm*.).

Wyoming: Knight (1902) indicated that the species was a very rare summer resident and McCreary (1937) agreed with him. Bailey (1930) reported the peregrine nesting at Yellowstone National Park, but Kemsies (1930) believed them to be rare breeders.

Former and Present Population Status

Formerly, the peregrine was only locally common in the West. In 1973, Cade (1975 a) believed that at least 238 to 346 active eyries existed in the western United States. Recent data (Table 1) places the total number of former eyries in the Rocky Mountain/Southwestern Region between 131-197. Recent censuses of the peregrine have been undertaken in Montana, Wyoming, Colorado, New Mexico (Enderson 1965, Enderson and Craig 1964), Utah (Sherrod et al 1973), Arizona (Ellis 1974) and Texas (Hunt *pers. comm.*). Only in the Rocky Mountain area has the survey covered a period of sufficient duration to show population trends. No nesting pairs are known for Kansas, Nebraska, Nevada, Oklahoma and South Dakota, but pairs are known or suspected in the following states.

Arizona: D. Ellis (*pers. comm.* 1976) and associates visited 20 of 31 probable breeding sites for Arizona in 1975. Three of the 20 were occupied by pairs; at least one adult was present at each of three others. One of the single adults, a male, was recovered dying of unknown causes. One immature and one adult were present at cliffs where there was no history of nesting.

Colorado: Of 31 historic sites visited by Enderson (1965) in his 1964 peregrine survey in Montana, Wyoming, and Colorado, six occupied sites produced five young. Pairs were present at 11 of 23 sites visited by Enderson and Craig (1974) in 1973, including two previously unknown eyries. These pairs fledged a total of two young. Eggshells were 20 percent thinner than normal for the species, and DDE residues in the egg contents averaged 33 ppm (wet-weight basis). Enderson and Craig (1974) estimated a 50 percent reduction in nesting pairs in the region within the last few decades. In 1974, the number of pairs dropped to seven, which included only six of the eleven pairs reported in 1973. However, the mean production of 1.4 young per pair at these eyries was unexpectedly high. The one pair in 1974 used a site that had not been occupied since 1965. In 1975, seven of 25 historic peregrine sites visited in Colorado by Craig and Enderson (*pers. comm.* 1975, unpubl. ms.) had pairs. Although egg production at these sites appeared normal, broken and thin-shelled eggs were found, and only 0.7 young per pair fledged.

Idaho: M. Nelson (*pers. comm.* 1976) knew of four active eyries (one had a single adult female) in 1975 and 17 historic sites.

Montana: J. Sumner (*pers. comm.* 1976) noted that presently only one of 17 to 22 historic eyries is active in Montana.

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Table 1. Approximate Number of Known Peregrine Falcon Eyries

	Number of Occupied Eyries											
State	Historic**	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Arizona	15	3	10	11								
Colorado	27	7	8	12								
Idaho	17	3	0	0								
Kansas	4	0	0	0								
Montana	23	1	1	0								
Nebraska	1	0	0	0								
New Mexico	20	8	7	7								
North Dakota	7	0	0	0								
Oklahoma	0	0	0	0								
South Dakota	2	0	0	0								
Texas	13	5	6	8								
Utah	41	1	1	3								
Wyoming	7	0	0	0								
TOTAL	177	28	33	41								

** Any sites known before 1975.

The figures given for 1975 do not necessarily mean that all historic sites were checked.

New Mexico: For New Mexico, T. Smylie (*pers. comm.* 1976) estimated a probable 20 historic sites, of which eight were active in 1975.

North Dakota: No nesting pairs are known in North Dakota.

Texas: W. G. Hunt (*pers. comm.*) noted that five eyries were active in Texas in 1975, although productivity apparently was extremely low. Hunt also found six active pairs in the State of Chihuahua, Mexico.

Utah: None of the 41 verified or suspected historic sites in Utah (Porter and White 1973) was known to be active in 1973 (Sherrod et al 1973). In 1975, one pair nested in Utah at a historic site (Scott and Kertell *pers. comm.*).

Wyoming: Four active but unverified pairs have been reported for Wyoming (R. D. Porter, *pers. comm.* 1976).

Table 1a.

WILD PEREGRINE FALCON PRODUCTIVITY

1975	Arizona	Colorado	Montana	New Mexico	Texas	Utah	Total
No. Occupied Sites	8	8	0	2	5	1	24
No. Sites with Adult Pairs	4	6	0	2	5	1	18
No. Pairs with One Juvenile Member	0	1	0	0	0	0	1
No. Sites with Lone Adults	3	1	0	0	0	0	4
Known No. Successful Pairs	?	2	0	0	2	1	5
Known No. Young Fledged	?	5	0	0	4	2	11
Average No. Young/Succ. Pair	?	2.50	0.00	0.00	2.00	2.00	2.20
Average No. Young/Adult Pair	?	0.83	0.00	0.00	0.80	2.00	0.61

1976	Arizona	Colorado	Montana	New Mexico	Texas	Utah	Total
No. Occupied Sites	10[1]	8	1	7	6	1	33
No. Sites with Adult Pairs	9	5	0	5	6	1	26
No. Pairs with One Juvenile Member	0	2	0	0	0	0	2
No. Sites with Lone Adults	1	1	1	2	0	0	5
Known No. Successful Pairs	2	4	0	2	4	1	13
Known No. Young Fledged	4	6[2]	0	4	10	2	26
Average No. Young/Succ. Pair	2.00	1.50	0.00	2.00	2.50	2.00	2.00
Average No. Young/Adult Pair	0.50	1.20	0.00	0.80	1.67	2.00	1.00

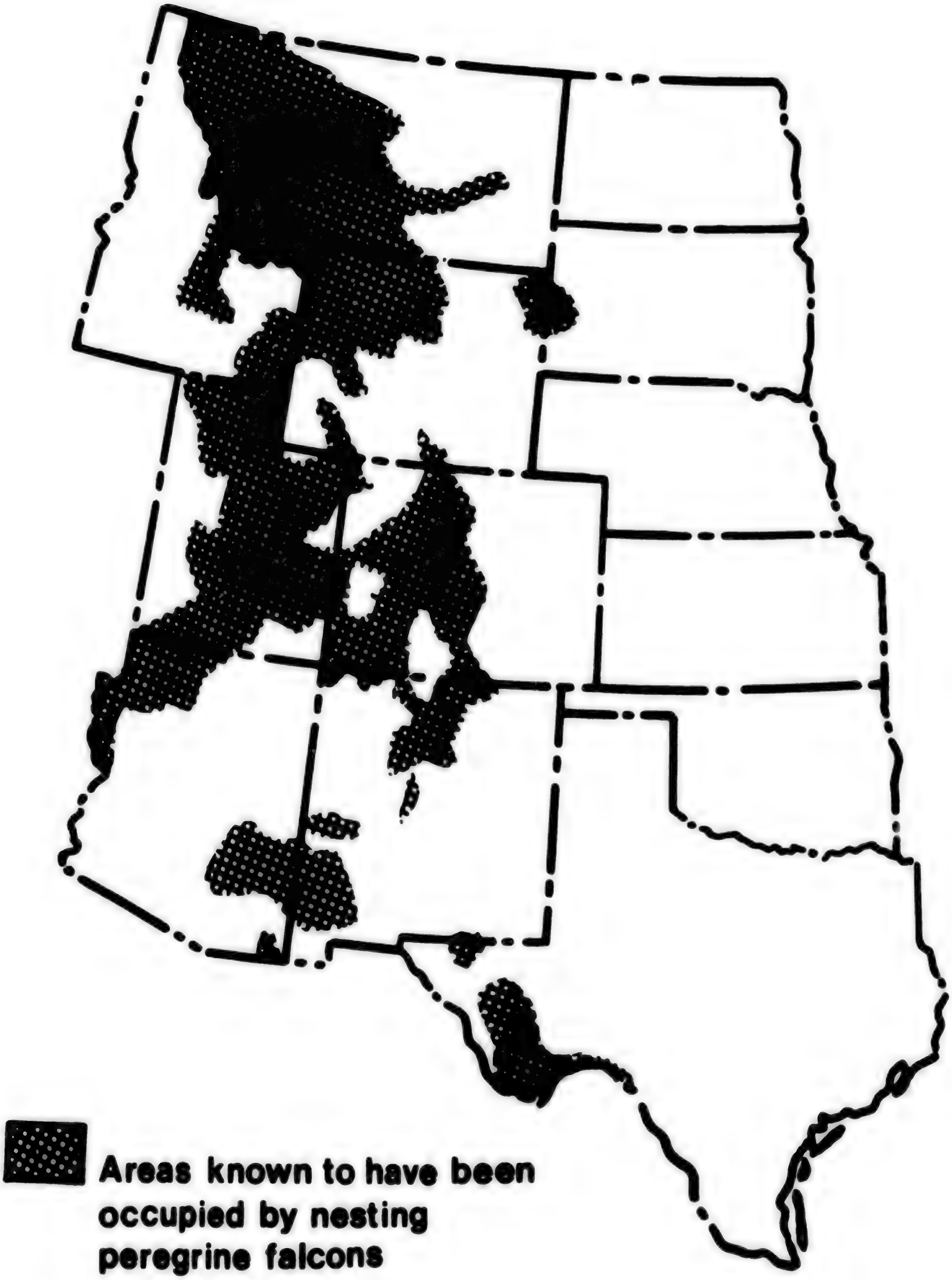
1977	Arizona	Colorado	Montana	New Mexico	Texas	Utah	Total
No. Occupied Sites	11	12	0	7	8	3	41
No. Sites with Adult Pairs	4	11	0	6	8	3	32
No. Pairs with One Juvenile Member	1	0	0	1	0	0	2
No. Sites with Lone Adults	0	1	0	0	0	0	1
Known No. Successful Pairs	0	6	0	6	4	3	19
Known No. Young Fledged	0	11[3]	0	18[3]	11	6	46
Average No. Young/Succ. Pair	0.00	1.83	0.00	3.00	2.75	2.00	2.42
Average No. Young/Adult Pair	0.00	1.00	0.00	3.00	1.38	2.00	1.44

1/ 3 additional pairs were observed early in the spring, but eyries weren't located.

2/ 4 captive-reared young supplemented wild production.

3/ 6 sites were manipulated to augment productivity in Colorado; 3 sites were manipulated to augment productivity in New Mexico.

REGION OF RESPONSIBILITY


▨ Areas known to have been occupied by nesting peregrine falcons

Reasons for Decline

The marked decline in active peregrine eyries and the greatly reduced productivity of peregrines in the western United States since the late 1940's was coincident with declines elsewhere throughout the northern hemisphere (Hickey 1969). Ratcliffe (1969) indicated that although reliable evidence of trends in the British Peregrine population is available only for the last few decades, it is far from certain that any great decline took place in Britain prior to the pesticide era. In the eastern United States, Hickey (1942) reported that perhaps 10 to 18 percent of the historic sites were permanently abandoned by 1942. Nelson (1969) noted a decline in active peregrine eyries in the northwestern United States prior to 1948 and attributed this decline to a change in climate (increase in temperature and decrease in precipitation) between 1860 and 1960. Porter and White (1973) suggested that these changes in climate may have had less impact on peregrine populations in Utah than in other areas of the northwest due to the more permanent nature of the managed marshes where the peregrines hunted. Cade (1975 a:60) considers the evidence convincing that an early decline in that region antedating the DDT era correlates with higher temperatures and lower precipitation in the 1930's and the 1940's.

Nevertheless, much more attention has been paid to the role of DDT in the decline of peregrines in the West. Attention was drawn to the possible role of pesticides in raptor population declines in a conference on peregrines at the University of Wisconsin in 1965 (Hickey 1969).

Soon after Ratcliffe's (1969) initial report of eggshell thinning in British peregrines and sparrowhawks (*Accipiter nisus*), similar thinning associated with high levels of DDT and its metabolites, especially DDE,was discovered in North American peregrines (Hickey and Anderson 1968). The correlation of DDE in egg contents with reduced eggshell thickness has been clearly established for peregrines (Cade *et al.* 1971), prairie falcons (Fyfe *et al*. 1969; Enderson and Wrege 1973), and sharp-shinned hawks and goshawks (Snyder *et al*. 1973). Wiemeyer and Porter (1970) have demonstrated that the presence of DDE in captive American kestrels not only correlates with shell-thinning, but actually causes it. DDE levels in Cooper's hawk eggs from successful nests are lower than those in eggs from unsuccessful nests (Snyder *et al*. 1973). Enderson and Berger (1970) showed that fledging success is inversely correlated with thin-shelled eggs in prairie falcons.

Despite obvious correlations between DDE residues, eggshell thinning, and reproductive failure in some raptors, it is difficult to establish that these factors are the major causes of population decline of the peregrine (Hickey 1969). On the other hand, it has been argued that DDT and its metabolites were not abundant enough to account for the decline in peregrines by 1950. By extracting residues from shell membranes of museum eggs and comparing the levels of DDE with more recent eggs whose contents had been analyzed, Peakall (1974) demonstrated that DDE was present in amounts sufficient to account for pronounced shell-thinning in peregrine eggs in California as early as 1948.

While only DDE appears to cause shell-thinning to a significant degree over long periods in infected birds, it is probably a mistake to attribute all reproductive failure to egg breakage in DDE-contaminated raptors. Ratcliffe (1958) noted a female peregrine in Britain eating her eggs. Cade (Zimmerman 1975) reported the death of nestling arctic peregrines in 1969 which were thought to be the result of adult inattentiveness due to pesticides. Lincer (1972) suggests the possibility of abnormal parental behavior in American kestrels fed DDE plus PCB. Snyder et al. (1973) observed abnormal behavior in three of eleven pairs of Cooper's hawks in Arizona and New Mexico that eventually laid eggs with very high levels of DDE. In Colorado in 1975, a pair of peregrines abandoned three intact eggs that averaged about 100 ppm wet weight of DDE and PCB, a near record for the species (Enderson and Craig, unpubl. data).

It must be remembered that neither pesticide contamination nor population decline have been uniform for any species throughout its range in North America. Peregrines disappeared as a breeding bird in the eastern United States; they barely persist in the Rocky Mountains; but they are not declining and are not significantly contaminated with DDE in the Aleutian Islands (White et al. 1973). There can be no question that peregrines in North America, except for those in the Aleutian Islands, are experiencing reproductive difficulties due to DDE. The threat is probably greater to this species than any other because of its high position in the food chain.

Mortality Factors

Human-caused peregrine mortality include shooting (Bond 1946, Cade 1960, Lindberg 1975), poisoning (lethal doses of pesticides; Reichel *et al*. 1974), pole-trapping, destruction of nestlings, death in captivity, and interference at the nest causing abandonment or interruption of parental care. These sources of mortality may be locally important.

A variety of predators have been suspected to kill nestling peregrines. Trainer (1969) listed ten infectious diseases, including parasites, which have been discovered in wild peregrines. Deaths from botulism (White 1963), a herpes virus (Maré and Graham 1973), and pericarditis (Jefferies and Prestt 1966) also are known. Several diseases found in captive falcons, such as fowl pox, capillariasis, (Cooper 1969), aspergillosis and "bumblefoot" also may cause mortality among wild birds. Little scientific knowledge exists on the role of predation and disease in peregrine populations.

Accidents account for some mortality of peregrines, including collisions (Herren 1969), falls from nests (Mebs 1969), rock slides (Cade 1960), and collisions with power lines (G. Craig, *pers*. *comm*., R. D. Porter, *pers*. *comm*.). Herbert and Herbert (1969) reported that precipitation has killed a brood of peregrines, and this may limit the number of nestlings produced in the arctic (Ruos, in Cade 1975 a). The list of mortality factors could doubtlessly be increased tenfold, since natural causes of death in wild birds are extremely difficult to observe.

Habitat and Food Requirements

The habitat niche of the peregrine may be divided into three parts: (1) nesting sites, the cliff or substrate upon which eggs are laid, young are reared, and reproductive activities take place; (2) hunting sites, the environs or territory where food is obtained; and (3) migration and wintering sites, the winter resting and hunting sites or habitats through which it migrates.

Nesting Sites: Throughout the region from Mexico to Alberta and British Columbia, peregrines formerly nested on cliffs, usually in mountainous areas or near rivers or lakes. There are records of peregrines nesting on low dikes (Porter and White 1973) in Utah marshes, mud banks (Bendire 1892 and Coues 1874) and large trees along rivers of the Great Plains (Goss 1878), but these exceptions were due to abundant prey and lack of human disturbance. Peregrines in the Rocky Mountain and Southwest region now persist mainly on mountainous cliffs and river gorges. Remnant active eyries are present upon cliffs which exceed 200 feet in height. Nests are situated on open ledges and a preference for a southern exposure increases with latitude.

Hickey (1942) classified peregrine cliffs in the eastern United States into three classes on the basis of height and continuity of use. First class cliffs were considered to be "ecological magnets", because they were annually occupied and were the last to be abandoned when the eastern population crashed. Similar sites in the West are occupied now by some breeding pairs. The so-called second and third class cliffs which are generally unoccupied at present will be essential to assure re-expansion of the population, should recovery efforts be effective.

Peregrines nested from the lowest elevations in the region to above 9,000 feet (Craig pers. comm. reported an eyrie situated at 10,500 feet), but nesting above 8,500 feet is rare. Peregrines formerly nested in nearly all of the region's plant communities and often several vegetational groups were adjacent to the eyries. In the Rocky Mountain region the majority of known remaining pairs are near scrub-oak or pinion-juniper woodlands. Prey abundance and diversity provided by these situations is probably a major factor in eyrie selection. Nest sites also are adjacent to water courses and impoundments because of the abundance of avian prey which frequent such areas.

Nearly all of the remaining active eyries provide pairs a great height advantage above the surrounding terrain, which correlates with their use as hunting perches from which the falcons launch attacks at passing prey. Often, such places are of interest to people for the scenic view or rock-climbing opportunity they provide. This increases the possibility of human-peregrine conflicts.

Porter and White (1973) investigated the possibility of competition between peregrines and prairie falcons. They concluded that while the potential existed, it is doubtful that competition with prairie falcons contributed to the disappearance of Utah peregrines. Enderson and Craig (pers. comm.) observed interaction between nesting peregrines and prairie falcons at two locations in Colorado. They concluded that peregrines dominated prairie falcons and utilized preferred eyrie sites.

Pairs are usually present on the nesting cliff by mid-March, but some individuals may remain in the vicinity of the eyrie all year. First clutches of three or more often four eggs are laid in early April in the south and late April in the northern part of the region. Both sexes incubate, although the male shares less of that duty and provides most of the prey. Incubation lasts 33 days; the young remain in the area several weeks after fledging in mid-June to mid-July during which time they are fed and defended by both adults.

Hunting Sites: Peregrines may travel up to 17 miles from nesting cliffs to hunting areas (Porter and White 1973). Flight speed in excess of 60 miles an hour allows this falcon to hunt large areas with little effort. Preferred hunting habitats such as cropland, meadows, riverbottoms, marshes, and lakes attract abundant bird life.

Peregrines appear to capture a wide variety of birds in this region. Blackbirds, jays, doves, shorebirds and smaller songbirds are common food items. Sometimes, remains of white-throated swifts and swallows are encountered on nest ledges. Table 2 enumerates those prey species encountered at eyrie sites in Colorado and Utah. Most prey species are struck from above at great speed, and they often evade the falcon's attack by aerobatics or diving to cover. Due to the peregrine's hunting tactics, obstacles such as telephone and power lines may present collision hazards. G. Craig (pers. comm.) reported recoveries of three peregrines which suffered injuries apparently caused by collision with powerlines, and R. D. Porter (pers. comm.) obtained a peregrine that reportedly died from the same cause.

Table 2. Prey Species Encountered in Peregrine Eyries

Common Name	Scientific Name	Region where found
2/ Avocet, American	*Recurvirostra americana*	Utah
Bat, Big Brown	*Eptesicus fuscus*	Utah
Bat, Unident. sp.	? ?	Utah
1/, 2/Blackbird, Brewer's	*Euphagus cyanocephalus*	Colorado, Utah
1/, 2/Blackbird, Red-winged	*Agelaius phoeniceus*	Colorado, Utah
1/, 2/Blackbird, Yellow-headed	*Xanthocephalus xanthocephalus*	Colorado, Utah
Chukar	*Alectoris graeca*	Utah
Coot, American	*Fulica americana*	Utah
1/, 2/Dove, Mourning	*Zenaidura macroura*	Colorado, Utah
1/, 2/Dove, Rock	*Columbia livia*	Colorado, Utah
Dowitcher, Long-billed	*Limnodromus scolopaceus*	Utah
Duck, Unident. sp.	? ?	Utah
1/, 2/Flicker, Common	*Colaptes auratus*	Colorado, Utah
Flycatcher, Ash-throated	*Myiarchus cinerascens*	Utah
Grosbeak, Black-headed	*Pheucticus melanocephalus*	Colorado
Gull, Franklin's	*Larus pipixcan*	Utah
Jay, Pinon	*Gymnorhinus cyanocephalus*	Utah
Jay, Scrub	*Aphelocoma coerulescens*	Utah
Jay, Steller's	*Cyanocitta stelleri*	Colorado
Killdeer	*Charadrius vociferus*	Utah
Lark, Horned	*Eremophila alpestris*	Utah
Magpie, Black-billed	*Pica pica*	Colorado
1/, 2/Meadowlark, Western	*Sturnella neglecta*	Colorado, Utah
Nighthawk, Common	*Chordeilus minor*	Utah
Nutcracker, Clark's	*Nucifraga columbiana*	Colorado
Passerine, Unidentified	? ?	Colorado, Utah
2/ Phalarope, Wilson's	*Steganopus tricolor*	Utah
Phoebe, Say's	*Sayornis saya*	Utah
1/, 2/Robin, American	*Turdus migratorius*	Colorado, Utah
Sparrow, Lark	*Chondestes grammacus*	Utah
Starling	*Sturnus vulgaris*	Colorado
Stilt, Black-necked	*Himantopus mexicanus*	Utah
Swallow, Unident. sp.	? ?	Colorado
Swallow, Violet-green	*Tachycineta thalassina*	Colorado, Utah
1/ Swift, White-throated	*Aeronautes saxatalis*	Colorado
Towhee, Green-tailed	*Chlorura chlorura*	Utah
Warbler, Unident. sp.	? ?	Colorado
Waxwing, Bohemian	*Bombycilla garrulus*	Utah
2/Willet	*Catoptrophorus semipalmatus*	Utah
Yellowlegs, Greater	*Tringa melanoleneus*	Utah

1/ Prey commonly taken in Colorado
2/ Prey commonly taken in Utah

From: Porter and White (1973), Enderson and Craig (pers. comm.)

Migration and Wintering Sites: Little is known of post-breeding movement of adults or immature peregrines, but peregrines are occasionally reported in the region throughout the winter. Enderson (1965) reported that wintering peregrines were frequently associated with large rivers or waterfowl refuges, e.g., Monte Vista and Bear River National Wildlife Refuges in southern Colorado and northern Utah respectively. While no verificiation was possible, Porter and White (1973) believed that the peregrines wintering in the marshes adjacent to Utah and Great Salt Lakes also bred along Utah's Wasatch Front. White (1969) reported the use of Bear River marshes by adult and immature falcons during June and July in the early 1960's. Since the eyries were no longer inhabited on the adjacent mountains, White believed the falcons were of arctic origin.

Evidence for a southward migration of first-year birds rests on a single recovery of a peregrine banded in a Colorado nest and recovered in Mexico the following winter. T. Smylie and F. Bond (pers. comm.) report that some New Mexican peregrines appeared to be almost sedentary and could be seen in the vicinity of their eyries throughout the year.

Population Dynamics

Unfortunately, not enough information is available to establish exact population dynamics for wild peregrine falcons. Sufficient data are available, however, to construct hypothetical population dynamics from known parameters.

Enderson (1969) estimated from band returns annual juvenile mortality at approximately 70 percent and adult mortality at 25 percent. He considered that the estimates were probably high because of shooting. Lindberg (1975) calculated mortality at 59 percent and 32 percent for juveniles and adults respectively for 1,080 Swedish peregrines which were banded between 1914 and 1971. Like Enderson, he suspected that shooting may have biased the mortality rates upward since approximately 53 percent of the juveniles and 40 percent of the adults were shot. Therefore, the natural mortality should more properly be in the range of 20 to 25 percent for adults and 50 to 55 percent for juveniles.

The mean life expectancy for those young that fledge is probably near four years. Enderson (1969) recorded maximum life span in excess of 13 years and Lindberg (1975) reported the oldest known Swedish peregrine lived to be 17 years of age. One peregrine banded in Germany reached 13 years of age and another from Finland reached 15 years of age. It is not unreasonable to assume that some individuals may live to 20 years since several peregrines reached that age in captivity.

Observations of breeding peregrines, both in captivity and in the wild, confirm that they exhibit delayed sexual maturity and do not normally breed until at least two years of age. While birds in juvenile plumage have been observed paired with adults at eyrie sites, such cases are not common and in most instances, the pair failed to produce young. Thus, for all practical purposes, pairs containing yearlings do not contribute substantially to recruitment and should be deleted from consideration.

Simple calculations show that a normal peregrine falcon population which exhibits an estimated juvenile mortality of 50 to 55 percent, does not reach sexual maturity until two years of age, and experiences an estimated mortality of 20 to 25 percent after their first year, must fledge between 1.3 and 1.7 young per adult pair* in order to sustain itself. Presently, the average fledging rate being experienced in the wild is generally lower than one young per adult pair, certainly fewer than required to replace normal adult losses.

Due to long average life expectancy and the above described population dynamics, sudden, drastic changes in numbers of breeding adults should not be expected, even when reproduction is as low as currently exists. Similarly, successful management operations will not likely provide quick population recovery.

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* Adult pairs does not mean pairs that were successful in rearing young, it means all adult pairs observed occupying breeding territories.

Captive Propagation

The Peregrine Fund of Cornell University recently established the feasibility of large scale captive propagation of peregrines (Table 3). Captive breeding is recognized as essential to the recovery of the species. If the survival and restoration of the anatum peregrine falcon were dependent upon captive propagation as it existed five years ago, the chance for success would have been very slim (Table 4). From 1942 to 1970, only seven young peregrines were produced due to the interest and inquisitiveness of a few falconers. Other species of raptors were raised with slightly better success, but the results were unimpressive. Not until 1973, when Cornell University produced twenty young from three pairs of arctic peregrines, did the production of large numbers of these birds appear to be feasible. A second breakthrough occurred in that year when J. Enderson of Colorado College raised the first anatum peregrines in captivity.

Since these recent advances, further developments in the technology of artificial insemination and incubation have occurred which resulted in the production of over 150 peregrines in North America in 1977. One half of the peregrines produced in 1977 were anatums.

As of the spring of 1977 well over one hundred anatum peregrines were being held in captivity for breeding. About forty separate origins are represented in the birds being held. Total annual anatum peregrine production should approach 200 birds by 1985.

Table 3.

Summary of Breeding Performance by
Peregrine Falcons at Cornell University*

Year	No. Breeding Age Females	No. Laying Females	No. Eggs Laid	No. Eggs Fertile	No. Eggs Hatched	No. Young Raised
1973	5	4	41	26	22	20
1974	7	6	59	34	24	23
1975	12	11	109	44	27	26
1976	28	25	191	112	83	69
1977	42	29	239	139	111	96

*This includes the following subspecies: *anatum*, *tundruis*, *pealei*, and *brookii*

Table 4. Captive Propagation of Peregrine Falcons (all subspecies)

Year	Young Anatums Raised	Total Young Raised
1942 - 1970		
All peregrines produced in North America and Germany		7
1971		
North America		4
1972		
United States and Alberta		10
1973		
Cornell University		20
Other Private Breeders	3	3
1974		
Cornell University	1	23
Other Private Breeders	3	5
1975		
Cornell University	3	25
Canadian Fish and Wildlife Service		18
Other Private Breeders	8	17
Total for Year in North America	11	60
1976		
Cornell University	19	69
Canadian Fish and Wildlife Service	40	40
Other Private Breeders (approximate)	4	20
Total for Year in North America	63	129
1977		
Cornell University	24	96
Canadian Fish and Wildlife Service	40	40
Other Private Breeders	8	17
Total for Year in North America	72	153

Figure 1. Female peregrine entering nesting site. (by R. D. Porter & R. J. Erwin)

Figure 2. Clutch of 5 peregrine eggs in a nest scrape. (by R. D. Porter)

Figure 3. Female peregrine feeding downy young. (by R. D. Porter & R. J. Erwin)

Figure 4. Female peregrine falcon brooding downy young. (by R. D. Porter & R. J. Erwin)

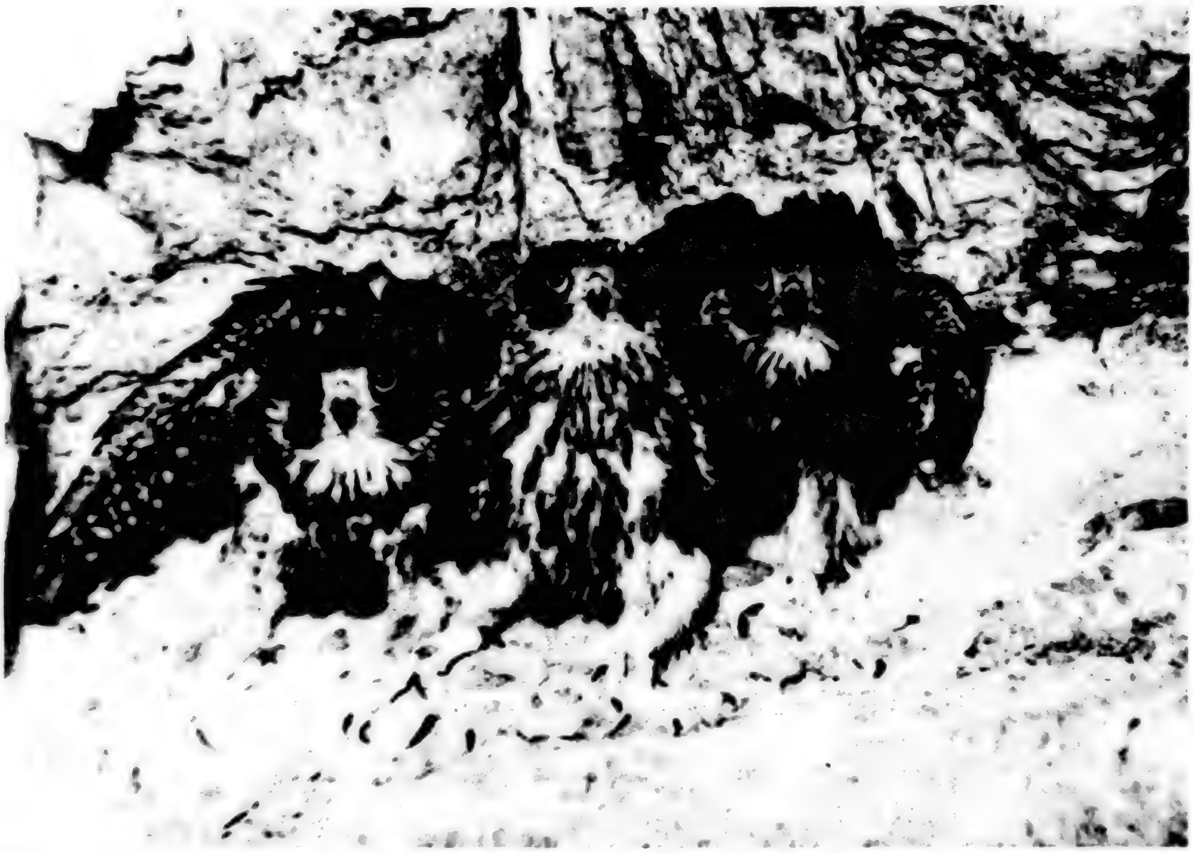

Figure 5. Nestling peregrines at fledging age. Note vertical stripes on breast rather than horizontal bars of adults. Immature peregrines are dark brown on the back rather than slate gray like the adults.

(by R. D. Porter & R. J. Erwin)

STEP-DOWN PLAN

Description of Planning Procedures

The step-down planning technique used to develop this plan involved the establishment of a precise problem statement, the Prime Objective. Intermediate and lower echelon objectives, which must be accomplished to attain the Prime Objective, were then identified. The lowest echelon objectives usually became the specific jobs or tasks to which budgets and manpower requirements were assigned.

The following summarizes the sequence which was followed in developing the plan[1]:

(1) From the facts at hand, establish one simply stated, single purpose, primary objective that communicates the identity, nature, and depth of the problem. (This is the Prime Objective).

(2) Derive a second echelon of items that will accomplish the first.

(3) Derive a third, fourth, etc. echelon of items.

(4) Continue the logical derivation of subordinate objectives until terminal items are reached; that is, items recognizable as actions which can be performed, or items whose paths to solution are not immediately evident from existing knowledge or technology. The terminal items are tasks or jobs to be accomplished.

(5) Re-examine the plan to determine that the composite attainment of each item, beginning with the terminal items, will build back to accomplish the primary objective.

(6) Re-examine the plan to determine that each item is necessary to the accomplishment of the primary objective.

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[1] These steps and planning technique are described in detail by Phenicie and Lyons (1973).

INITIAL DRAFT - APRIL 1976

STEP-DOWN PORTION OF PEREGRINE RECOVERY PLAN

Prime Objective: Increase *anatum* peregrine populations in the Rocky Mountain and Southwest regions to a minimum of 100 effective breeding pairs* by 1995.

1. Determine, maintain and protect existing and potential habitat for population continuance and expansion.

    11. Determine critical habitat.

        111. Identify nesting habitat, including feeding areas.

            1111. Analyze and monitor presently-used nesting locations and the surrounding area.

                11111. Evaluate physical parameters of each active eyrie site.

                11112. Evaluate physical parameters within 15 miles of each active eyrie site.

                11113. Determine disturbances occurring at each eyrie site and establish tolerances.

            1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas.

            1113. Locate, analyze and monitor previously unknown eyrie sites.

            1114. Locate and evaluate potential eyrie sites.

        112. Identify non-nesting habitat.

            1121. Initiate research to determine location and related habitats utilized by non-breeding peregrines (generally subadult) during the breeding season.

            1122. Identify habitat used by migrating peregrines.

                11221. Determine migration patterns and chronology.

                11222. Locate and analyze feeding and resting areas.

            1123. Locate, map and evaluate important feeding and roosting areas utilized by wintering peregrines.

            1124. Initiate research to determine other habitat needs.

    12. Maintain and upgrade suitable habitats to insure they remain attractive to peregrines.

        121. Monitor land use changes within occupied and potential peregrine habitat and respond to potentially unfavorable operations.

            1211. Review pertinent Environmental Impact Statements.

            1212. Review governmental land-use planning documents.

            1213. Alert responsible agencies where adverse plans appear.

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* Effective breeding pair: a male and a female adult peregrine falcon that successfully produce and fledge offspring in the wild state.

122. Eliminate unfavorable land use activities and public disturbances of key habitats.

1221. Prohibit land-use practices and development which alter or eliminate the character of the hunting habitat, prey base within ten miles and the immediate habitats within one mile of the nesting cliff.

1222. Prohibit disturbances and human activities between 1 February and 1 August (in excess of those which have historically occurred at the sites) which occur within one-half mile of the nesting cliff(s).

1223. Prohibit use of pesticides and other environmental pollutants which are harmful and would accumulate in the peregrine or its food source.

123. Manage critical habitat on private lands through purchase, lease, exchange or cooperative agreements.

124. Manage critical habitat on public lands through agreement with responsible agencies.

125. Research and implement means of enhancing the physical attributes of eyries and surrounding areas to improve habitat.

13. Provide protection of occupied and suitable habitat (critical habitat).

131. Implement Section 7 of Endangered Species Act for federal lands.

132. Implement existing state laws and regulations dealing with non-federal lands such as emergency closures to hunting, access, zoning, etc.

133. Encourage enactment of appropriate state legislation for protection of habitat.

1331. Encourage adoption of a state endangered species act or similar authority.

1332. Encourage adoption of a state coordination act or similar authority.

1333. Use state power of eminent domain.

2. Monitor and increase productivity of wild pairs.

21. Reduce and monitor levels of detrimental pollutants.

211. Oppose the use of DDT and other detrimental pollutants.

212. Monitor peregrine eggshell thickness and contaminant levels in the peregrine's environment.

22. Manage the wild population for maximum productivity.

221. Obtain accurate annual field data on eyrie occupancy and productivity.

222. Manipulate clutches, clutch-size, broods, and brood-size such that increased fledging rates result.

223. Research and implement means of enhancing prey availability.

224. Research and implement means of enhancing the physical attributes of eyries and surrounding areas to increase production.

23. Protect peregrine falcons through implementation of legislation.

231. Implement state regulations.

232. Implement federal regulations.

233. Recovery Team review of permit applications and requests concerning peregrine falcons.

3. Establish a long-term captive propagation and reintroduction program to augment the wild population.

31. Build, operate and maintain through 1995, facilities sufficient to house 36 pairs, and to produce 75 or more young per year.

311. Build new facilities to hold 12 additional pairs.

312. Maintain and operate facilities to produce 75 or more young per year.

313. Maintain heterogeneity and increase numbers of captive breeding stock to approximately 36 pairs.

3131. Develop breeders from presently held state and federally approved captive peregrines and their progeny.

3132. Obtain desirable breeders and/or potential breeders presently in captivity through trade, transfer or loan.

3133. Increase captive breeding stock from wild population.

31331. Exchange captive-produced eggs or young for wild eggs or young.

31332. Remove eggs through double-clutching or sequential removal.

31333. Remove small numbers of eggs or young from reproductively stable, local populations or in extreme instances where eyries are jeopardized.

31334. Acquire juveniles or adults which are injured.

3134. Maintain studbook records.

314. Maximize the captive production of healthy young.

3141. Refine captive rearing techniques.

3142. Minimize genetic homogeneity by cross-matching birds with unlike lineages within and among projects, but avoid interbreeding anatum peregrines with other subspecies.

32. Release 75 or more captive-produced birds per year under conditions optimizing survivorship.

321. Obtain necessary field data annually on nesting chronology of known wild pairs to serve as foster parents and to augment their clutches/broods with eggs/young from captive breeding.

        - 3211. Obtain necessary field data on egg production.
        - 3212. Obtain necessary field data on brood production.
    - 322. Develop successful means of release, including intraspecific foster parents, interspecific foster parents, and "hack" techniques of young and adults.
        - 3221. Release captive-produced young with intraspecific foster parents.
        - 3222. Release captive-produced young with interspecific foster parents.
        - 3223. Release captive-produced young by means of "hack" techniques.
- 33. Establish a field research program to evaluate progress of restocking program.
    - 331. Place U. S. Fish and Wildlife Service bands on all released birds.
    - 332. Place color markers and radio transmitters on released birds.
    - 333. Systematically search historical eyries for released birds.
    - 334. Establish a region-wide system to report sightings of released birds to gain information.
    - 335. Evaluate research results and apply findings.

4. Conduct information and education programs designed to gain support for protection of and efforts to restore the peregrine.
    - 41. Develop and produce needed information and education materials.
        - 411. Develop color brochures and posters.
        - 412. Develop audio-visual programs for loan to schools and local conservation groups.
        - 413. Develop press release kits with photographs.
        - 414. Develop hunter posters, leaflets and signs.
        - 415. Develop public service ads.
        - 416. Develop and provide audio-visual packets for use on television and radio.
        - 417. Develop films on the peregrine falcon.
    - 42. Make the public aware of the peregrine, its plight, habitat needs and recovery efforts currently underway.
        - 421. Initiate "Endangered Species Week."
        - 422. Provide printed and audio-visual material for dissemination by public agencies and conservation organizations.
        - 423. Conduct public attitude surveys to determine effectiveness of this information-education program.

43. Make public agencies aware of peregrine identification, habitat needs, and recovery efforts currently underway and clarify agency responsibilities in the peregrine recovery effort.

    431. Provide workshops for public agencies to inform them of their responsibilities for endangered species and involve them in information-education programs.

    432. Initiate, produce and disseminate a periodic newsletter.

5. National/International coordination and cooperation.

    51. Coordinate national peregrine falcon recovery teams through an inter-team committee.

        511. Oversee and direct a national information and education program relative to peregrine falcon recovery efforts.

        512. Review and approve research proposals and efforts relative to peregrine falcons.

        513. Coordinate various cooperative phases of the recovery plans when mutually desirable.

    52. International (Western Hemisphere) coordination and cooperation.

        521. Liaison and information exchange among nations.

        522. Implement international cooperative activities to restore the peregrine.

            5221. Develop cooperative research programs.

            5222. Decrease and eventually eliminate international use of detrimental pesticides.

            5223. Develop international law enforcement and habitat protection programs.

            5224. Develop international information and education programs relative to the peregrine.

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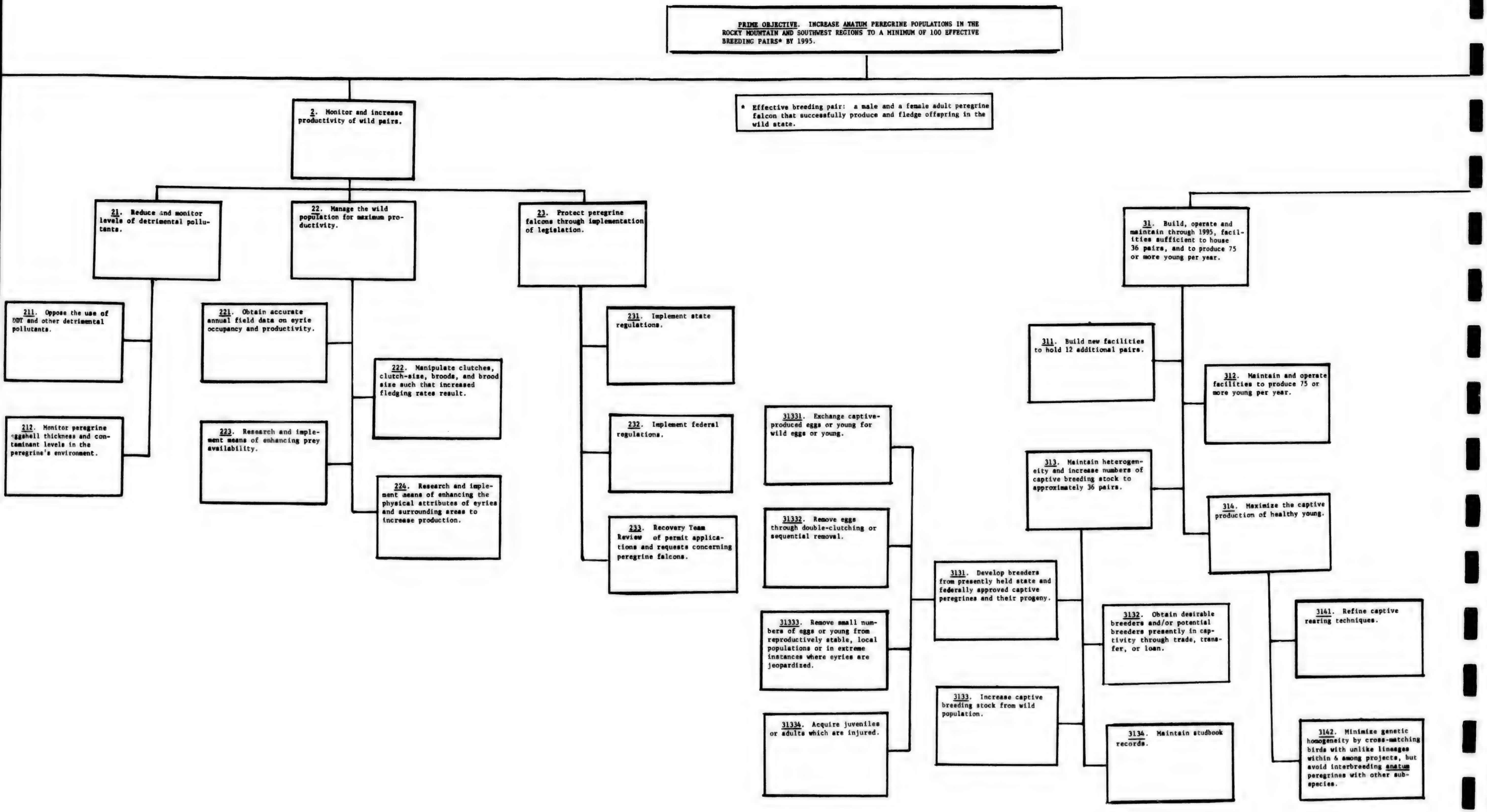

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  - 2. Monitor and increase productivity of wild pairs.
    - 21. Reduce and monitor levels of detrimental pollutants.
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    - 22. Manage the wild population for maximum productivity.
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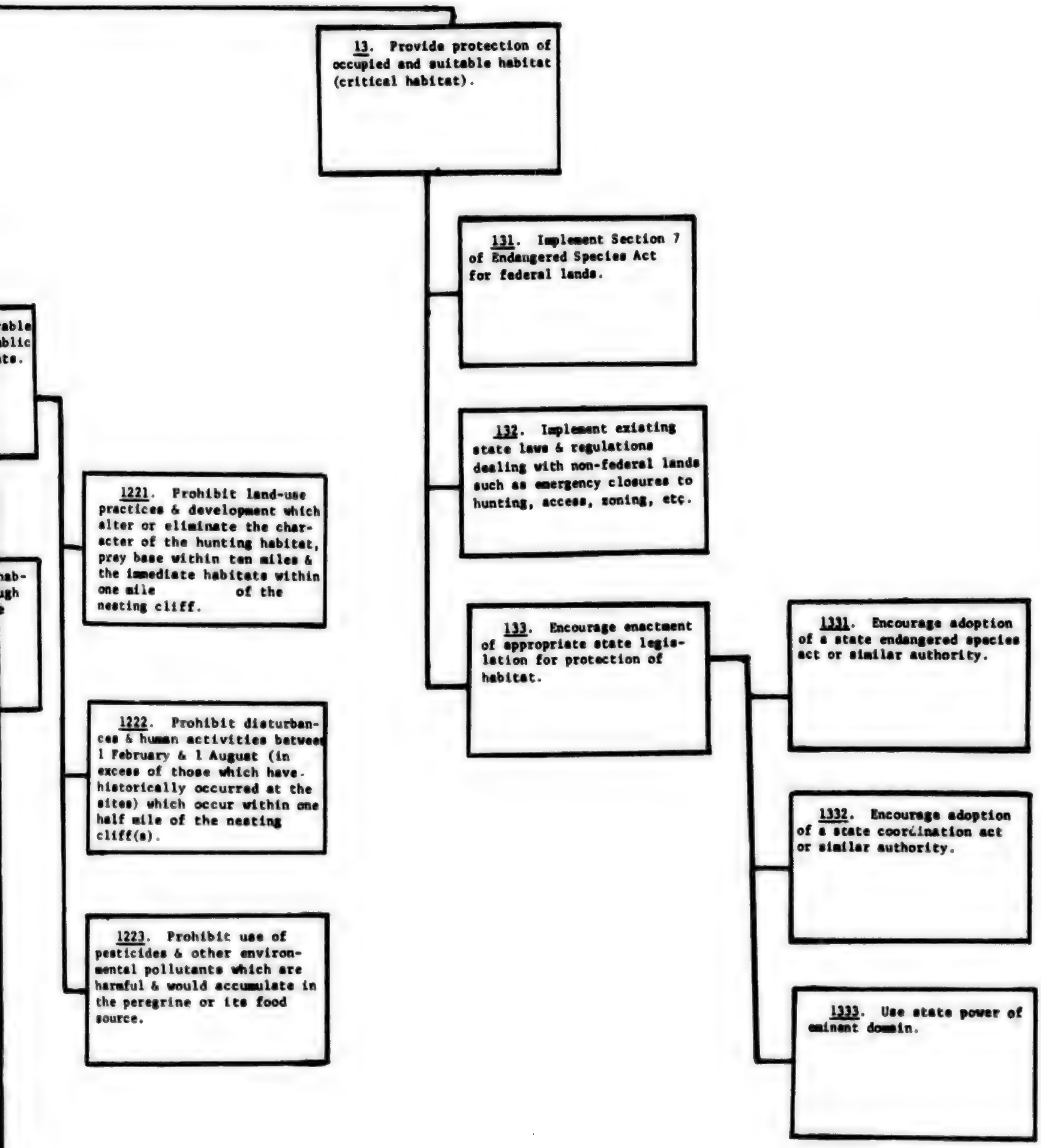

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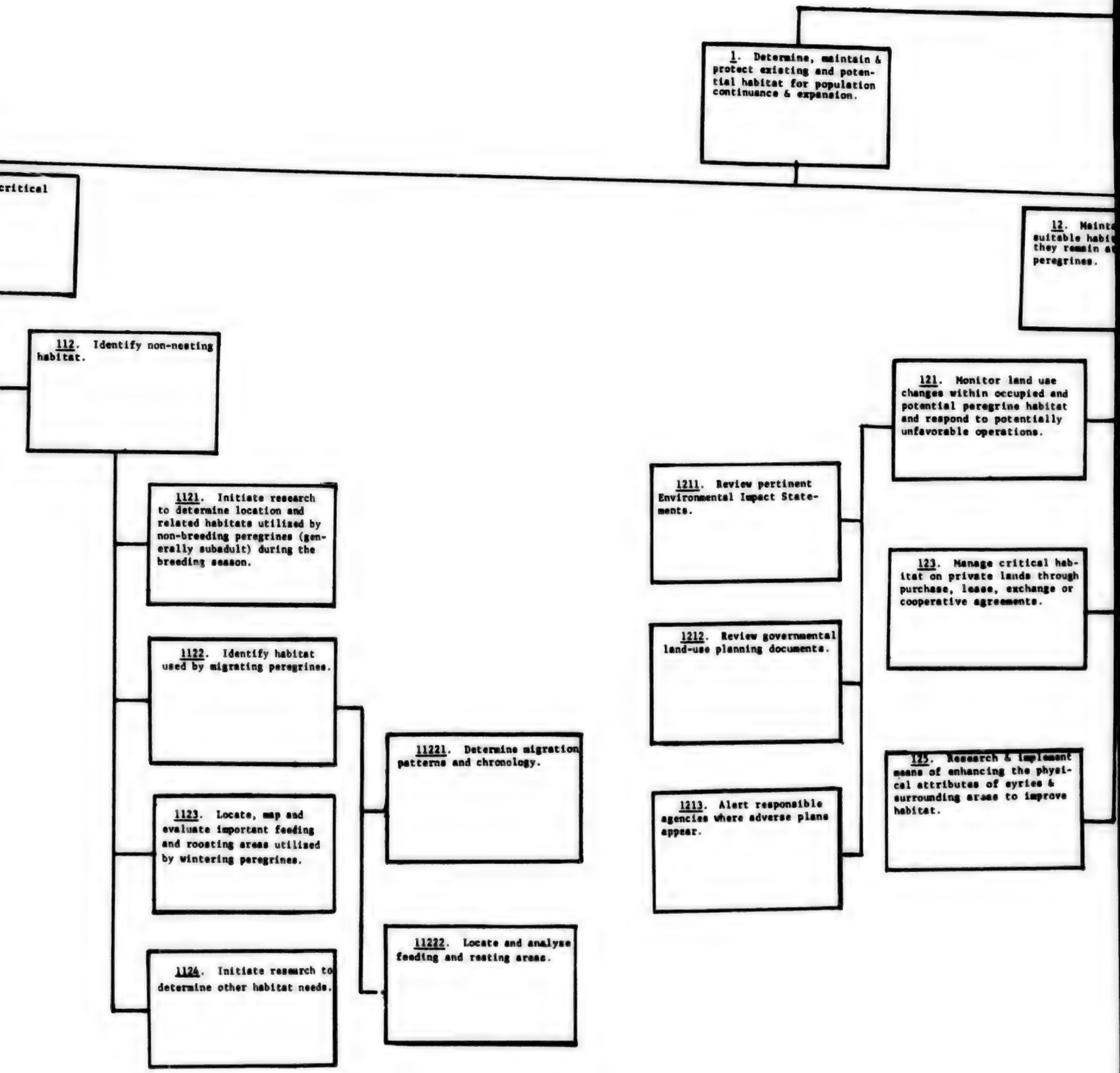
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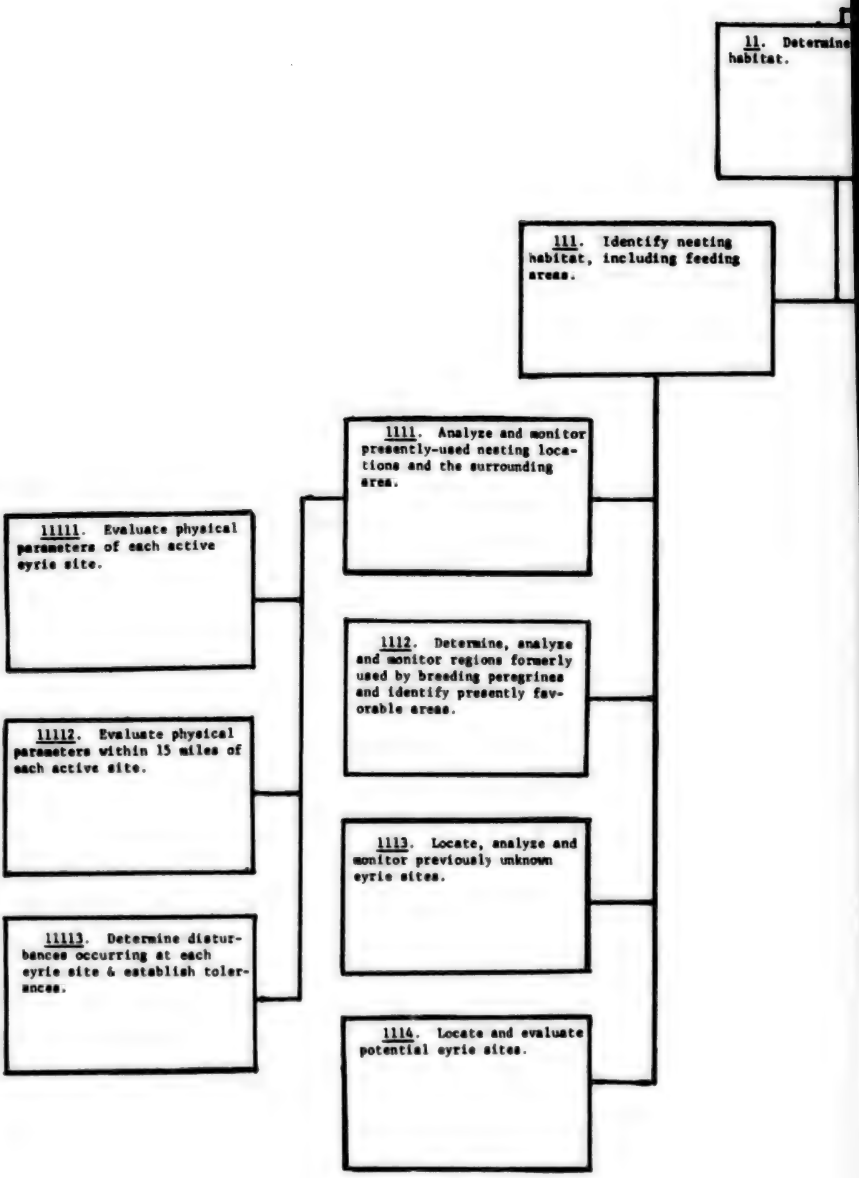
peregrines.
112. Identify non-nesting habitat.
1121. Initiate research to determine location and related habitats utilized by non-breeding peregrines (generally subadult) during the breeding season.
1122. Identify habitat used by migrating peregrines.
11221. Determine migration patterns and chronology.
11222. Locate and analyse feeding and resting areas.
1123. Locate, map and evaluate important feeding and roosting areas utilized by wintering peregrines.
1124. Initiate research to determine other habitat needs.
121. Monitor land use changes within occupied and potential peregrine habitat and respond to potentially unfavorable operations.
1211. Review pertinent Environmental Impact Statements.
1212. Review governmental land-use planning documents.
1213. Alert responsible agencies where adverse plans appear.
123. Manage critical habitat on private lands through purchase, lease, exchange or cooperative agreements.
125. Research & implement means of enhancing the physical attributes of eyries & surrounding areas to improve habitat.



11. Determine
habitat.

111. Identify nesting habitat, including feeding areas.

1111. Analyze and monitor presently-used nesting locations and the surrounding area.

11111. Evaluate physical parameters of each active eyrie site.

11112. Evaluate physical parameters within 15 miles of each active site.

11113. Determine disturbances occurring at each eyrie site & establish tolerances.

1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas.

1113. Locate, analyze and monitor previously unknown eyrie sites.

1114. Locate and evaluate potential eyrie sites.

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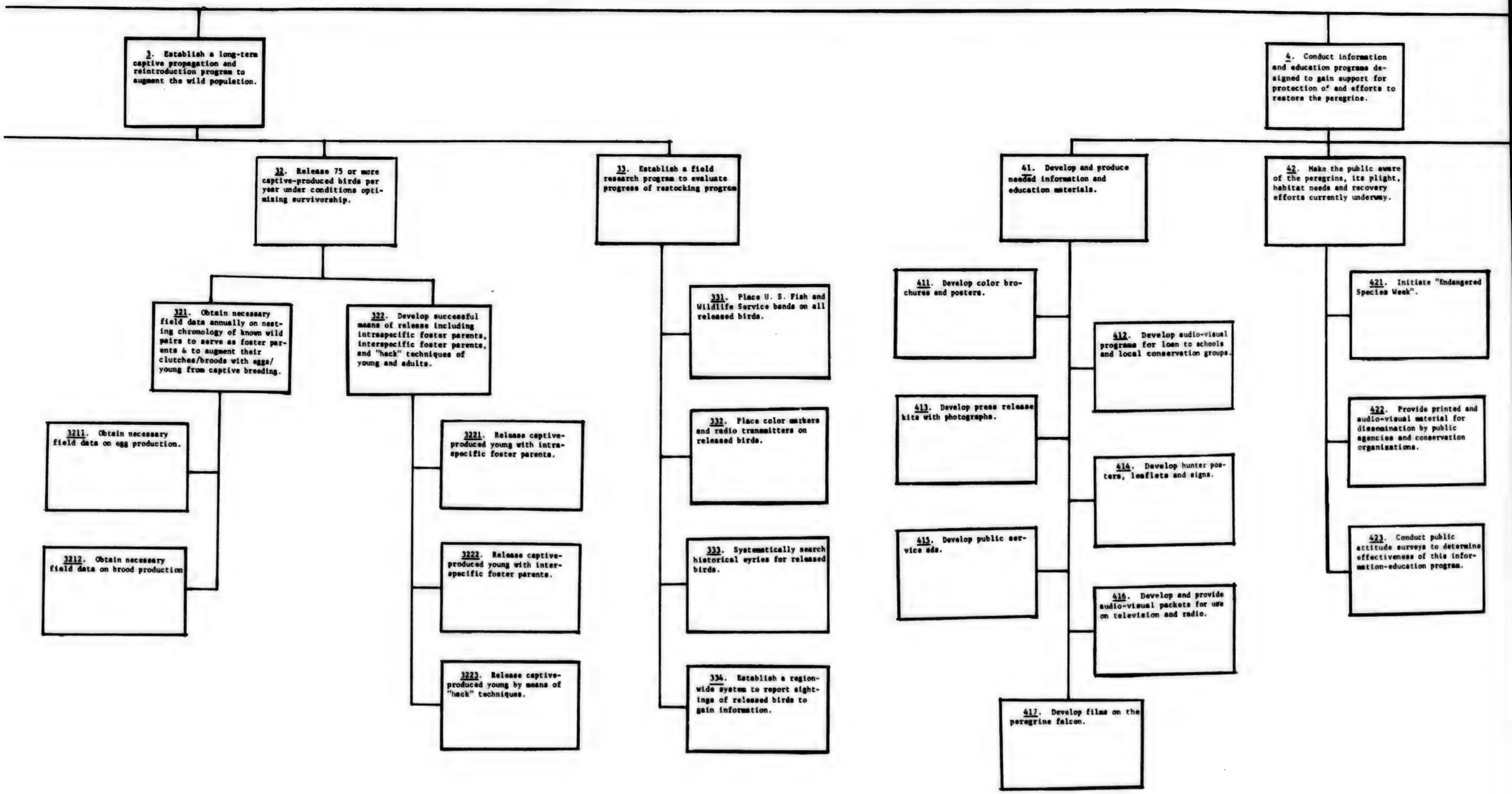
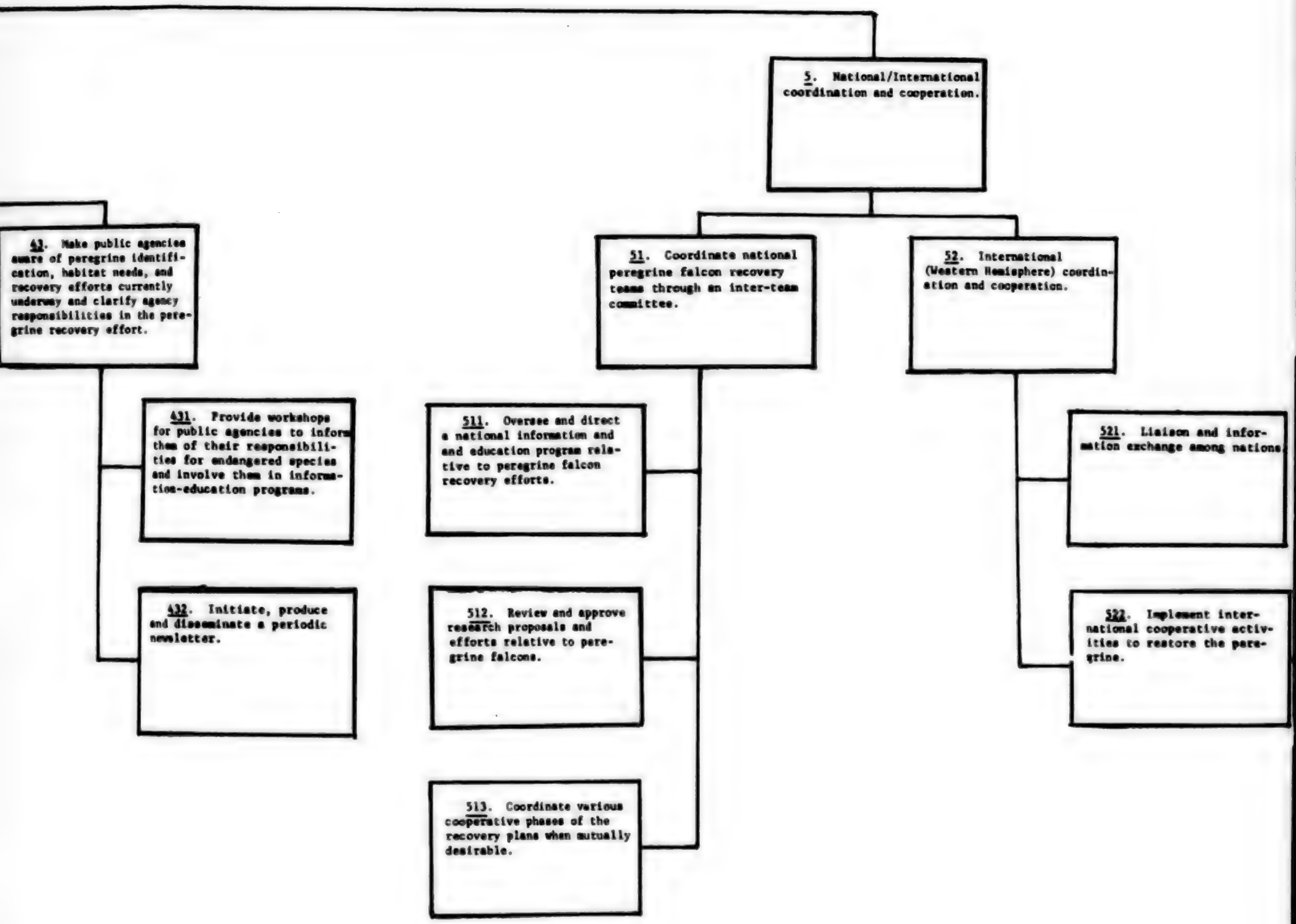

3. Establish a long-term captive propagation and reintroduction program to augment the wild population.
32. Release 75 or more captive-produced birds per year under conditions optimizing survivorship.
321. Obtain necessary field data annually on nesting chronology of known wild pairs to serve as foster parents & to augment their clutches/broods with eggs/young from captive breeding.
3211. Obtain necessary field data on egg production.
3212. Obtain necessary field data on brood production
322. Develop successful means of release including intraspecific foster parents, interspecific foster parents, and "hack" techniques of young and adults.
3221. Release captive-produced young with intraspecific foster parents.
3222. Release captive-produced young with interspecific foster parents.
3223. Release captive-produced young by means of "hack" techniques.
33. Establish a field research program to evaluate progress of restocking program
331. Place U. S. Fish and Wildlife Service bands on all released birds.
332. Place color markers and radio transmitters on released birds.
333. Systematically search historical eyries for released birds.
334. Establish a region-wide system to report sightings of released birds to gain information.
4. Conduct information and education programs designed to gain support for protection of and efforts to restore the peregrine.
41. Develop and produce needed information and education materials.
411. Develop color brochures and posters.
412. Develop audio-visual programs for loan to schools and local conservation groups.
413. Develop press release kits with photographs.
414. Develop hunter posters, leaflets and signs.
415. Develop public service ads.
416. Develop and provide audio-visual packets for use on television and radio.
417. Develop films on the peregrine falcon.
42. Make the public aware of the peregrine, its plight, habitat needs and recovery efforts currently underway.
421. Initiate "Endangered Species Week".
422. Provide printed and audio-visual material for dissemination by public agencies and conservation organizations.
423. Conduct public attitude surveys to determine effectiveness of this information-education program.



5. National/International coordination and cooperation.

43. Make public agencies aware of peregrine identification, habitat needs, and recovery efforts currently underway and clarify agency responsibilities in the peregrine recovery effort.

431. Provide workshops for public agencies to inform them of their responsibilities for endangered species and involve them in information-education programs.

432. Initiate, produce and disseminate a periodic newsletter.

51. Coordinate national peregrine falcon recovery teams through an inter-team committee.

511. Oversee and direct a national information and and education program relative to peregrine falcon recovery efforts.

512. Review and approve research proposals and efforts relative to peregrine falcons.

513. Coordinate various cooperative phases of the recovery plans when mutually desirable.

52. International (Western Hemisphere) coordination and cooperation.

521. Liaison and information exchange among nations.

522. Implement international cooperative activities to restore the peregrine.

__5221__. Develop cooperative research programs.

__5222__. Decrease and eventually eliminate international use of detrimental pesticides.

__5223__. Develop international law enforcement and habitat protection programs.

__5224__. Develop international information and education programs relative to the peregrine.

NARRATIVE

Prime Objective: Increase anatum peregrine populations in the Rocky Mountain and Southwest regions to a minimum of 100 effective breeding pairs* by 1995.

As of 1975, 177 historical peregrine eyries are known to exist in the Rocky Mountain/Southwestern United States. Based on the amount of potentially suitable habitat in the region yet unsurveyed, the Recovery Team conservatively estimates there may have been as many as ± 350 total eyries in this region historically.

The Recovery Team estimates that about 65 percent of the eyries in the region are probably still suitable for occupancy. This would amount to 115 of the known eyries or approximately 228 of the total estimated eyries.

Prior to the "DDT era" (mid-1940's) peregrines in other regions (eastern U. S. and Europe) were reported to occupy from 80 to 90 percent of known eyries in any given breeding season (Enderson and Craig, 1974). As a result, from 92-103 historical eyries or approximately 182-205 of the total estimated suitable eyries in the Rocky Mountain/Southwestern U. S. should be occupied in any given year if the peregrine populations in this region were in a healthy condition.

Based on these assumptions, the Recovery Team estimates that a minimum wild peregrine population of 100 effective breeding pairs exhibiting a minimum mean annual reproduction rate of 1.4 young per pair will represent a major step toward this population's recovery. It must be recognized, however, that the reversal of the present downward population trend may not be equally successful in all areas within the Rocky Mountain/Southwestern region. Additional supplemental actions may still be necessary in some local areas to restore these isolated populations.

When the Prime Objective is reached or significant new data are obtained, the status of the region's peregrine population and its dynamics will be reassessed by the Recovery Team to determine if the Prime Objective of the Recovery Plan needs to be changed, or if reclassification is warranted.

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* Effective breeding pair: a male and a female adult peregrine falcon that successfully produce and fledge offspring in the wild state.

1. Determine, maintain and protect existing and potential habitat for population continuance and expansion.

Delineation and protection of the peregrine's habitat are basic steps toward eventual protection of the species. A great deal still needs to be learned about the peregrine's preferred hunting and wintering areas, and migration routes. Much effort will have to be devoted to establishing habitat parameters. Active eyrie sites must be evaluated to determine those factors which make the sites suitable for occupancy. Information obtained from such analyses will provide criteria to establish the suitability of inactive sites and designate potential eyrie sites. Migrant peregrines will have to be monitored through extensive banding, colormarking and telemetry programs to ascertain migration and wintering areas. When areas are located, they will be studied to establish key habitats. Only after the above information is compiled can protective measures be implemented.

11. Determine critical habitat.

Habitats critical to the continued existence of peregrines fall into two categories, nesting and non-nesting areas (Appendices A & B). The nesting areas include the eyrie site and adjacent feeding areas which support the breeding pairs and their young. Nesting habitats may be occupied by the breeding population for a period of up to eight months each year. Non-nesting habitat is more difficult to define due to lack of movement data. Non-nesting habitat generally includes migration areas, wintering areas [illegible] areas utilized by the non-breeding segment of the population during the breeding season.

111. Identify nesting habitat, including feeding areas.

Each eyrie site is composed of the nest site itself and associated foraging areas utilized by breeding pairs to sustain themselves and their offspring. Data from eyries in the Great Basin region indicate that peregrines were drawing upon prey populations up to 17 miles from the eyrie. Any measures to protect eyries also must be directed toward key feeding areas as well.

1111. Analyze and monitor presently-used nesting locations and the surrounding area.

Criteria must be established and refined to assist in the determination and eventual protection of critical nesting sites and adjacent feeding areas. Eyrie sites which were active within the past three years will be inspected and critical factors established. The development of a list of critical factors which are essential to occupancy of sites by breeding pairs also will provide assistance in evaluating the suitability of unoccupied, historic eyries as well as determining potential production sites.

Since different agencies and individuals will undoubtedly be involved, uniformity must be maintained when gathering data used in analyzing nesting locations. This requires that particular forms and instructions be provided to investigators. See Appendix B for the proper format. Upon completion of examination of eyrie sites, copies of the completed forms and other pertinent data should be provided to the recovery team. From these data, the Recovery Team will compile a list of critical factors to assist state and federal agencies in the evaluation of potential peregrine habitat.

Jobs 11111 (Evaluate physical parameters of each active eyrie site), 11112 (Evaluate physical parameters within 15 miles of each active eyrie site) and 11113 (Determine disturbances occurring at each eyrie site and establish tolerances) can all be accomplished concurrently. Thus, cost per eyrie to accomplish 11111, 11112 and 11113 is estimated at $1,000 per site.

While the Fish and Wildlife Service has overall responsibility for coordinating this plan, state wildlife agencies will coordinate this task to assure that uniformity is maintained, and in addition, will be responsible for surveying non-federally administered lands. Land management agencies will be responsible for surveying eyries on lands under their administration.

11111. Evaluate physical parameters of each active eyrie site.

Historically, a variety of eyrie sites have been utilized by peregrines, making it very difficult to catalog potential nesting areas. Active and recently occupied sites should be investigated to establish those physical parameters common to all sites. Among those factors which should be recorded are: topography, altitude, climate, soil and vegetative types, presence of and distance to water, geologic composition of the cliff; cliff orientation, cliff height, eyrie height, presence of alternate cliffs and eyrie sites, possible predators, competitors and human activities occurring within the immediate vicinity of the site.

11112. Evaluate physical parameters within 15 miles of each active eyrie site.

Due to high mobility of peregrines and the extensive hunting range known for some eyries, an area of approximately 15 miles from each active eyrie should be surveyed to establish potential and actual hunting areas occupied by breeding adults, and later, by fledglings. Nesting ledges should be visited to identify prey remains. Those areas occupied by such prey species should be located and mapped. Direct observation of hunting adults may yield further information. The use of telemetry on fledglings and possibly adults will provide great insight into hunting areas and maximum hunting range of the falcons. Factors which will be designated are: location and distance of key hunting areas, prey density and composition at key hunting areas, vegetation types throughout the region, topography, presence of physical features which isolate or make prey vulnerable (large expanses of water, gorges, mountain valleys, plowed field, etc.), climatic factors, and existence of potential competitors.

11113. Determine disturbances occurring at each eyrie site and establish tolerances.

Human activities, visual and audio disturbances, and land use practices should be determined at eyrie sites and within 15 miles of the eyries. Breeding pairs should be observed to determine reactions to potential disturbances in order to establish tolerance levels.

1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas.

It is essential to restoration efforts to reestablish breeding pairs at formerly occupied eyrie sites presently capable of sustaining falcons. The criteria developed in Job 1111 will be used to assess the suitability of unoccupied sites. These areas will then be considered for reintroduction of peregrines propagated in captivity. These sites will be monitored periodically, since they may be reoccupied in the event of a natural population expansion.

1113. Locate, analyze and monitor previously unknown eyrie sites.

There is considerable land area throughout the Rocky Mountain/Southwest states that has not been surveyed to date. Investigations to locate potential eyrie sites (Job 1114) and efforts to locate new sites will undoubtedly provide sites previously unknown. The new sites will most likely equal less than half of the presently active sites. Despite this, efforts to locate them will continue. These new sites will be invaluable in efforts to augment natural production by placing captive-produced young in wild nests. The newly located sites will be evaluated as in Job 1111 and productivity ascertained.

1114. Locate and evaluate potential eyrie sites.

One-third to one-half of the historic eyrie sites are estimated to be uninhabitable because of human encroachment and habitat alteration. Habitat, unoccupied but potentially suitable for occupancy by breeding pairs, will be surveyed and evaluated through criteria in Job 1111. Reintroduction sites will be established in suitable areas.

112. Identify non-nesting habitat.

Only a portion of the life history of the peregrine in the Rocky Mountains is known, because the majority of the research has been devoted toward nesting surveys. Virtually nothing is known of the preferred migration and wintering areas. Pressures facing the population during the non-nesting season can only be surmised. Rationale for use of telemetry in the following sections is: the extremely low numbers of individuals remaining in the population reduces the effectiveness of a banding or colormarking program, since the odds of receiving a band return or sighting a marked bird are unlikely. Therefore, the use of telemetry appears to be the only technique that will provide significant data within a relatively short time span. The cost of a telemetry program must be weighed against the urgency of the need to locate and protect key habitats utilized during the non-breeding seasons.

While significant technological advances have greatly reduced the size of the radio package, increased signal strength and made more sophisticated receivers available, workers should be aware of other limitations of the system which are briefly stated below.

(a) High mobility of peregrines requires that the trackers be equally mobile. Eventually a satellite system may be used to follow migrant peregrines throughout North and South America. The next most effective tracking system would be a grid system of receivers which monitor signals of telemetered peregrines as they pass through the vicinity. Again, such a grid of receiving stations is still in the planning stages. At this time, aircraft and ground vehicles are the only existing tracking systems which are available. The rugged terrain and a lack of extensive road systems in portions of the western United States will severely limit the use of ground vehicles to follow the radio signals. Thus, sufficient funds should be budgeted for aircraft time.

(b) Attachment of the radio package to the young falcons still has some drawbacks. Since the tail feathers continue to grow for several weeks after the young falcons have fledged, the radio package may damage the fragile tail feather if it is attached to the tail. The body harness is aesthetically displeasing and again feather follicle damage may result when placed upon young falcons. The leg attachment has worked effectively upon young peregrines which were artificially reared and fledged at sites along the eastern seaboard in 1974 and 1975. Unfortunately, the transmitter is exposed to abuse when placed upon the leg.

(c) Battery life limits the time the transmitters will function. The Fish and Wildlife Service has developed 12-gram transmitters that have operated in the field up to six months. This will necessitate trapping and reinstrumenting the individual periodically.

1121. Initiate research to determine location and related habitats utilized by non-breeding peregrines (generally subadult) during the breeding season.

Observations of subadult falcons are few; however, occasionally unattached immature peregrines are sighted at cliffs during the breeding season. Investigations, primarily through telemetry, hopefully will supply information about subadult activities and movements.

1122. Identify habitat used by migrating peregrines.

Extent, duration and routes of migrating anatum peregrines are not presently known. Since the arctic peregrine apparently migrates through the region, it has been impossible to distinguish these two subspecies in the field. Use of colormarking and telemetry should aid in identification of migration areas.

11221. Determine migration patterns and chronology.

Migration patterns and chronology will be established through the compilation of sightings of colormarked individuals and radio tagging as well as returns from banded falcons.

11222. Locate and analyze feeding and resting areas.

Habitats which are habitually utilized by migrant peregrines (located and followed by techniques described in Job 11221) should be located and evaluated to establish those factors such as prey concentrations and roost sites which appear to attract the falcons. Key areas will be earmarked for preservation to assure continued usage by migrants.

1123. Locate, map and evaluate important feeding and roosting areas utilized by wintering peregrines.

Too few peregrines have been banded in the past to yield any insight into key wintering areas. An immature peregrine banded in June in Colorado as a nestling was recovered in Mexico in midwinter.

However, adult breeding pairs are often sighted in the vicinity of their eyries in September and again in February, so their migration is probably not extensive. There is some indication that adults in the southern tier of states may remain near their eyries throughout the year. Since a sufficient number of individuals are not likely to be produced to provide a good base for a banding program, the use of color-marking and telemetry may yield the best results. Key wintering areas should be surveyed and evaluated to establish potential disturbances or mortality factors which may affect the falcons.

1124. Initiate research to determine other habitat needs.

Little information is available about habitat needs of non-nesting peregrines and additional habitat requirements are likely to be discovered; thus, efforts should be directed toward establishment of these additional requirements.

12. Maintain and upgrade suitable habitats to insure they remain attractive to peregrines.

It is recognized that habitat loss was among the critical factors causing the peregrine's decline; therefore, habitat preservation is essential to maintain or reestablish the peregrine into its former range. Because some of the presently unoccupied habitats are unsuitable for reoccupancy by the peregrines, it will be necessary to upgrade and protect other habitats so that population expansion can take place.

121. Monitor land-use changes within occupied and potential peregrine habitat and respond to potentially unfavorable operations.

Proposed detrimental habitat alterations or land-use practices within critical habitats (Job 11) will have to be eliminated where feasible. The most effective method of determining unfavorable habitat alteration is to review the Environmental Impact Assessment (Job 1211) and land-use planning documents (Job 1212). If such plans are proposed for public lands, the appropriate agencies must be notified (Job 1213).

122. Eliminate unfavorable land-use activities and public disturbances of key habitats.

After the unfavorable land-use practices and adverse disturbances have been identified, steps should be taken to reduce or eliminate those practices. The protective measures implemented will depend on the type of disturbance or habitat alteration and the habitat affected.

1221. Prohibit land-use practices and development which alter or eliminate the character of the hunting habitat, prey base within ten miles and the immediate habitats within one mile of the nesting cliff.

A survey of all suitable historic, currently active or potential eyrie sites will need to be conducted, and key hunting areas and disturbances will be established (Job 1111). Practices which would reduce the numbers, distribution or availability of prey species should be prohibited; for example, the drainage of a marsh which may destroy avian prey being utilized by a pair of peregrines. Land-use practices which increase prey abundance will be encouraged. Permanent disturbances, such as developments or other human activities, should be prohibited within one mile of the nesting cliff(s). This may include special closures and appropriate signing and administration.

1222. Prohibit disturbances and human activities between 1 February and 1 August (in excess of those which have historically occurred at the sites) which occur within one-half mile of the nesting cliff(s).

To preserve eyrie sites, historic, potential or active, human activities will be minimized within one-half mile of these sites. Human activities which adversely affect breeding falcons should be eliminated.

In some circumstances, it may be necessary to keep specific eyrie sites under surveillance to protect them from harassment or unnecessary disturbance. In these cases, personnel (eyrie wardens) would be assigned to keep the site under constant surveillance. The observer(s) must be located in a position so that he can observe the eyrie site and the surroundings, and yet, not disturb the nesting falcons. In most cases, surveillance will have to commence before or upon initiation of egg laying and proceed until the young are fledged and the falcons are no longer vulnerable. Therefore, funding must be provided for two observers on a daily basis for four to five months. Valuable biological information about nesting peregrines can be obtained at the same time if the observers note activities, behavior, disturbances and prey preferences of the pair of falcons they have under observation.

The above protective measure is expensive and should be avoided where possible. Generally, the best way to eliminate this need is to limit public knowledge of eyrie sites. Should a particular site become popular, the responsibility of protecting the site should be the responsibility of the appropriate land management agency, the state agency and the Fish and Wildlife Service.

At this time (1976), it is contemplated that a number of sites may have to be placed under surveillance.

1223. Prohibit use of pesticides and other environmental pollutants which are harmful and would accumulate in the peregrine or its food source.

Agricultural use of persistent pesticides (such as DDT) has been definitely tied to the decline of peregrine falcons. Continued or renewed use of any substances deleterious to peregrines or their prey must be prohibited.

123. Manage essential habitat on private lands through purchase, lease, exchange or cooperative agreements.

The Endangered Species Act of 1973 applies only to lands federally administered or funded. Due to this, consideration must be given to the protection of peregrines utilizing private property. The obvious way to gain control of these privately owned habitat areas is through binding agreement, lease, exchange or purchase. The appropriate state agencies will be responsible for negotiating with the respective landowner.

124. Manage essential habitat on public lands through agreement with responsible agencies.

On occasion, certain beneficial activities may be encouraged on public lands through agreement with the administering agencies. On public lands, the land management agencies will be encouraged to enter into cooperative agreements with respective state wildlife management agencies for the management of critical habitats. These cooperative agreements would provide for a jointly developed habitat management plan.

Essential habitat on public lands not federally owned should be managed through an agreement with the respective public land agency and the appropriate state agency or the Fish and Wildlife Service to assure the habitat will remain suitable for the peregrine.

125. Research and implement means of enhancing the physical attributes of eyries and surrounding areas to improve habitat.

Manipulation of nesting ledges through clearing of debris or construction of artificial ledges may be necessary to assure utilization by a pair of peregrine falcons. Research is needed to develop techniques for improvement of eyrie sites or other habitat conditions.

13. Provide protection of occupied and suitable habitat (critical habitat).

To insure a future for the peregrine, various protective measures must be taken to safeguard occupied and suitable eyrie sites.

131. Implement Section 7 of Endangered Species Act for federal lands.

Section 7 of the Endangered Species Act of 1973 lists the responsibilities of several federal agencies to endangered and threatened floral and faunal species and their habitats. The administering agency, upon notification of occupied habitats, may in some cases provide protection of these lands without the necessity of Federal Register Publication.

132. Implement existing state laws and regulations dealing with non-federal lands such as emergency closures to hunting, access, zoning, etc.

All states have statutes and agencies with the authority to deal with the protection of the states' environment or parts thereof on non-federal lands. When necessary, most, if not all, state wildlife agencies have the authority for extraordinary protection of wildlife species. To protect occupied eyries, it may be necessary for these authorities to prohibit public access to these eyries during the breeding and nesting season(s). Authorities may have to set limitations on vehicular and air traffic near the eyrie and, in extreme cases, halt construction projects causing disturbances near an eyrie.

The extreme situations mentioned above will be necessary only in emergency situations. Local or state zoning is a long-term means of protection and preservation of a limited number of eyrie sites. This zoning need not be all-exclusive. Proper planning can make some other uses compatible with protection of an eyrie, but each site would have to be considered individually.

133. Encourage enactment of appropriate state legislation for protection of habitat.

States now lacking authorities such as described above should be encouraged to press for legislation allowing them to totally manage their wildlife resource.

1331. Encourage adoption of a state endangered species act or similar authority.

Some state legislatures have recognized the need for laws similar to the Endangered Species Act to more fully protect resident species and their habitats within their states. Those states lacking such authority will be encouraged to obtain same.

1332. Encourage adoption of a state coordination act or similar authority.

Coordination of the activities of various state agencies is necessary to prevent further detriment to critical peregrine habitat as well as wildlife habitat in general. Legislative mandates or Executive Orders may be required to achieve this synchronization.

1333. Use state power of eminent domain.

It may be necessary for a state to invoke the power of eminent domain in extreme cases where negotiation for the protection of active or historic eyrie sites has failed. All states do not have this authority for wildlife purposes. Where it is not possible or practical to invoke this authority, federal authority may have to be implemented.

2. Monitor and increase productivity of wild pairs.

The decline of the Rocky Mountain/Southwestern population of the anatum peregrine is attributable to reduced fledging success and subsequent lack of recruitment to replace breeding adults which are lost through natural mortality. In turn, poor productivity is primarily the result of effects of DDT and its metabolites. Certain measures such as "double clutching" and augmentation of wild broods with captive produced young will serve to artificially raise the fledging success and hopefully provide sufficient recruitment to sustain the wild population. Such actions will have to continue until DDT levels have been sufficiently reduced in the environment (and the wild peregrines) to permit the wild population to support itself naturally.

21. Reduce and monitor levels of detrimental pollutants.

Eggshell thinning and associated reproductive abnormalities caused by DDT and metabolites in the peregrine are largely responsible for the present endangered status of this species.

DDT (and metabolites) is the most critical factor in the decline of the peregrine and the most limiting factor in the restoration of the peregrine. Although use of DDT has been limited in the United States, it is still used extensively in the countries south of the United States and in other areas of the Western Hemisphere. DDT is not only picked up by peregrines migrating or wintering in the Latin American countries south of the United States, but it is also obtained by peregrines in the United States from prey species which migrate or winter south of the border. Additionally, DDT sprayed in large forested or agricultural areas may be extremely hazardous to remnant peregrine populations downwind of the spray area and may seriously contaminate peregrine prey species residing or passing through these areas.

Use of DDT, therefore, must be strongly opposed in all countries of the Western Hemisphere.

These pollutants must be reduced to innocuous levels in the peregrine's environment before the species can be expected to reproduce normally and before its populations can be expected to be elevated to self-sustaining levels. Thus, it will be necessary to monitor the levels of these and other contaminants in the peregrine's environment and to instill and maintain an awareness of the levels of these pesticides in the peregrine's environment among agencies with responsibility for pesticide use.

211. Oppose the use of DDT and other detrimental pollutants.

Uses of these chemicals deemed to be detrimental must be vigorously opposed by all state and federal land management agencies. Neither the public nor personnel of public agencies are generally aware of the devastating effect that these chemicals have on the peregrine. They must be made aware of these facts through the information and education program outlined in Jobs 41 and 42. In addition, the public also will be kept informed periodically of the changes in the levels of these chemicals as a part of an ongoing information program on the status and health of the peregrine.

212. Monitor peregrine eggshell thickness and contaminant levels in the peregrine's environment.

Contaminant levels in peregrines can be ascertained both in eggs and in body tissues. Pesticide levels in peregrines in the West have been determined mainly from addled eggs, but fat biopsies and blood determinations can be made with little risk to the birds. The thickness of shells from addled, broken, and hatched eggs can be measured and an assessment made regarding the health of the adult female. Five to ten samples of the principal prey species will be collected from the hunting area, migration area or wintering grounds. However, prey remains at eyries usually are too rare to provide good samples without constant harassment. Sampling of prey species in the vicinity of eyries can be made without disturbance to the pair. Prey samples will be collected by state wildlife agencies or their cooperators and analyzed. Collection of egg fragments and whole addled eggs may be made concurrently with Job 221 at no additional expense.

22. Manage the wild population for maximum productivity.

While efforts are underway to reduce or eliminate detrimental pesticides which are reducing productivity, several techniques may be adopted to increase production of those pairs remaining in the wild. Those young which are produced may eventually acquire lethal pesticide loads, but if the high recruitment rate can be sustained, the wild population may be maintained until such time that DDT levels have been reduced in the environment.

221. Obtain accurate annual field data on eyrie occupancy and productivity.

Essential to any recovery program is the need to monitor the reproductive success of the population to ascertain results of the recovery efforts. An initial indication that recovery efforts are successful is the reoccupancy of suitable historic eyrie sites. Conversely, a continued decline in eyrie site occupancy will indicate the failure of the recovery effort. Active sites will be inspected annually by the state wildlife agency or its cooperators to ascertain reproductive vigor of the nesting pair. Such productivity data gathered from visits to eyrie sites will provide details necessary for implementation of Job 222. The active sites will be the first surveyed in Job 1111.

222. Manipulate clutches, clutch-size, broods, and brood-size such that increased fledging rates result.

Additional young may be injected into the wild population either by inducing wild breeding falcons to produce additional young, or by placing eggs or falcons propagated in captivity under wild adults. Oologists were the first to develop the technique of "recycling" or "double clutching" wild raptors. This procedure is now being used to increase production by captive breeders. This technique involves the removal of the first clutch of eggs shortly after the clutch has been completed and is being incubated. Within approximately two weeks after removal of the first clutch, the adults will recycle and lay a second clutch, which they are permitted to incubate. The eggs obtained from the first clutch may be placed immediately in other wild nests with eggs of similar age to increase clutch size or replace broken eggs, or they may be artificially incubated and hatched at the propagation facility at Fort Collins, then placed in the wild with similar aged broods.

Problems inherent in this technique are:

(a) Active eyries must be kept under daily surveillance to establish exact dates of initiation of egg laying and commencement of incubation.

(b) The number of eyries which are still productive are so few as to cause difficulty in locating similar aged clutches or broods.

(c) The two week delay in producing a second clutch will cause a fourteen day age disparity between the eyrie which has been recycled and other wild broods. Possible sibling competition precludes the placement of older nestlings with younger nestlings at the same eyrie.

Due to the continued decline of peregrine populations in the Rocky Mountain/Southwest Region, immediate action must be undertaken to increase the wild fledging rates. Within the first breeding season, approximately one-half of the active wild eyries must be manipulated within each state. Should the endeavor prove successful, the number of sites to be manipulated may be increased to all the eyries. Since the technique requires a great deal of expertise, only those persons with adequate training should attempt such an endeavor. An average of 24 man-days plus associated expenses would be required to manipulate each site.

Information gathered in the course of this job also will be applicable to Jobs 3211 (Obtain necessary field data on egg production) and 3212 (Obtain necessary field data on brood production), which are required to establish suitable wild pairs which will serve as foster parents for captive produced peregrines (Job 321). Therefore, no cost will be assigned in the budget to Jobs 3211, 3212 and 321.

223. Research and implement means of enhancing prey availability. Reduced productivity can be partially caused by reduced prey availability. Enhancement of particular eyrie sites by habitat management practices that provide food and cover crops will increase the quantity of avian prey preferred by peregrines.

Should some of the prey species be contaminated with organochlorine residues, an attempt would be made to provide an alternate prey source to the breeding peregrines (R. C. Clement, 1974). One experimental technique is to establish and maintain domestic pigeon flocks in the vicinity of several eyrie sites. If effective, this technique would provide the falcons with an uncontaminated food source. The pigeon flocks will have to be supplied with some sort of shelter and supplementally fed in nearby fields if adequate forage crops are not available. Further, it is likely that some pigeon flocks will be decimated during the winter months by harsh weather, lack of food and wintering goshawks, and they will have to be replenished annually. The pigeon flocks should be kept under observation to record the frequency at which they are preyed upon by the peregrines and to determine the effectiveness of the effort. It is possible that the cost of maintaining this program precludes its general application.

224. Research and implement means of enhancing the physical attributes of eyries and surrounding areas to increase production. As more details are obtained through Jobs 11111, 11112, and 125, certain techniques will be suggested to improve physical attributes

of specific sites. The following are examples of activities which might be undertaken to improve production at specific eyrie sites.

(a) Enhance nesting ledges through enlargement or alteration of poor ledges by means of: provision of sand and gravel as a nesting substrate on bare ledges; removal of debris such as fallen rocks; construction of alternate nest ledges on cliffs which lack such diversity; and elimination of access to sites by predators.

(b) Reduce or eliminate human activities or other disturbances which preclude use of important hunting areas by peregrines.

(c) Provide additional hunting areas through vegetative manipulation. Preferred prey species may be increased in particular localities by maintaining the vegetative community at a specific successional stage. Certain logging practices which create parks and meadows in densely wooded regions may increase variety and availability of bird life. Increasing water availability by providing impoundments, marshes and sloughs may increase diversity and availability of prey species.

Any measures which are undertaken should be periodically monitored to evaluate their effectiveness.

23. Protect peregrine falcons through implementation of legislation.

In addition to protection of active, historic and suitable eyrie sites, certain measures are necessary for the protection of the species itself.

231. Implement state regulations.

All state wildlife regulations protect the peregrine, but no state has sufficient manpower to provide the extraordinary protection that will probably be necessary at active eyrie sites as other facets of this recovery plan provide birds for the wild. Depending on proximity of eyries to each other within a state, proper protection may require an eyrie "warden" at each site between 1 February and 1 August to prevent disturbance.

Electronic monitoring equipment may be useful for very remote sites; several eyries could be monitored from a central location and enforcement personnel dispatched in the event of an intrusion.

Information and education programs designed to acquaint the public with the plight of the peregrine and efforts to restore it may be the most effective tool for protection in the long run. Public interest will generate support for the recovery effort and strengthen law enforcement measures detailed above.

The public will learn the reasons for restricting access to eyrie sites, will respect this limitation during the nesting season and will assist in preventing intrusions into eyrie sites.

A carefully and properly funded and implemented education program will benefit not only the peregrine falcon, but also all birds of prey.

232. Implement federal regulations.

While state authorities for protection of the peregrine are generally sufficient, provisions under the Endangered Species Act of 1973 provide penalties and a broader scope of enforcement to be used in conjunction with state regulations. Coupled with the provisions of the International Convention on Trade in Endangered and Threatened Species of Fauna and Flora, the Act has the capability of effectively preventing illicit traffic in peregrines. Therefore, primary law enforcement responsibilities should be strengthened within the states where *anatum* peregrines are resident.

233. Recovery Team review of permit applications and requests concerning peregrine falcons.

This Recovery Team will continue to be a significant assistance to the individual states in an advisory capacity and as a clearing house for requests for endangered species permits and research proposals concerning peregrine falcons. Qualified researchers with valid proposals can aid immeasurably in the restoration of the peregrine. It will be the Team's responsibility to make these determinations. Similarly, requests for permits for whatever reason will be acted on by the Team, and only those with demonstrated positive benefits for the peregrine will be favorably recommended. Fish and Wildlife Service policy grants the Team this authority.

3. Establish a long-term captive propagation and reintroduction program to augment the wild population.

Under present environmental conditions, the regional wild peregrine population seems likely to continue its decline, even if other management options are successful. The central difficulty experienced by the population is subnormal fledging rates; a factor that can be directly improved by placing captive-bred young in eyries to maximize brood-size. Even if the wild population were to decline to zero before the Recovery Plan was implemented, captive-bred birds could be used for restocking and would then constitute the only remaining management option. It is clearly established that captive breeding on a large scale is feasible and represents the most urgent and crucial aspect of the plan. The Peregrine Fund of Cornell University, which operates peregrine propagation facilities at Ithaca, New York, and Fort Collins, Colorado, will be supported as the primary project to supply falcons for release. However, approved private projects which are to contribute to the peregrine recovery efforts should be utilized whenever possible.

31. Build, operate and maintain through 1995, facilities sufficient to house 36 pairs, and to produce 75 or more young per year.

Because of the inherently low reproductive rate (three-year delay in reaching sexual maturity and small clutch size), captive-production and release is necessarily a process with unavoidable time-lags. Under anticipated funding levels, these species-specific delays dictate a propagation-release program of at least 20 years.

311. Build new facilities to hold 12 additional pairs.

The Fort Collins facility presently has the capability of housing 24 pairs. Since the bulk of the breeding operation will be carried out there, lofts for 12 more pairs are required to house a total of 36 pairs. If the capability to produce 75 young per year is to be reached, at least 24 adult and 12 subadult pairs will have to be maintained. Presently fewer than eight suitable lofts are available for this project elsewhere in the region. These will house potential back-up pairs and will provide some separation of the valuable captive stock.

312. Maintain and operate facilities to produce 75 or more young per year.

At least 40 young are required annually for release to sustain the wild population. Ten more are needed to provide replacement for mortality of captive adults or to replace adults ultimately deemed unsuitable for captive breeding. Additional young will be released into the wild to speed recovery. The useful life of most of the major facilities and equipment used in captive breeding exceeds 20 years; the primary expenses, after the full-scale installation is established, will be for day-to-day operations and should be essentially constant through the projected period. The Fish and Wildlife Service would have the responsibility for funding the operation of the facilities to provide young for placing in the wild.

313. Maintain heterogeneity and increase numbers of captive breeding stock to approximately 36 pairs.

At present, approximately four pairs of unrelated adults are available to the propagation operation. At least five non-sibling pairs of their offspring have been formed, but presently only a few have reached sexual maturity. Several other adult and captive-bred young await suitable mates. Within two years, assuming successful captive-breeding, at least 15 pairs of adults and 10 pairs of subadults should be available at the Fort Collins facility.

3131. Develop breeders from presently held state and federally approved captive peregrines and their progeny.

Only one state-owned *anatum* peregrine is presently held at Fort Collins. The remainder are on loan from private individuals with state and federal approval.

3132. Obtain desirable breeders and/or potential breeders presently in captivity through trade, transfer or loan.

Very few *anatum* peregrines are presently in captivity outside the Fort Collins project; these are unlikely to become available to the project, unless regulations are relaxed to permit trades of captive-produced falcons to be provided in return for the use of desirable breeding peregrines (Job 3142).

3133. Increase captive breeding stock from wild population.

The only sure way to increase heterogeneity of the captive stock is by obtaining falcons from the wild population, since birds from captive sources are often of questionable origin. A minimum of 25 unrelated pairs must be established as foundation stock for the captive propagation program. Unfortunately, this genetic variation does not exist in captivity at this time. Therefore, when found in the wild, first clutches should be taken and reared in captivity. It is unlikely that the number of eggs taken would exceed 10-15 per year. A few pairs of young produced from these eggs should be retained each year throughout the project period to maintain a supply of genes from the wild population.

31331. Exchange captive-produced eggs or young for wild eggs or young.

Since the wild population cannot afford a harvest of young, the obvious way to take young without loss is to exchange them, at the time of removal, with an equal number of captive-produced eggs or downy young.

31332. Remove eggs through double-clutching or sequential removal.

Peregrines re-lay if clutches are removed early in incubation (double-clutching). If the second laying is successful, the first clutch can be retained in captivity since the pair is ultimately successful in production. Hence, no net loss is realized by the wild birds. Another option is to take the first egg or two as soon as they are laid by the wild pair (sequential removal). The wild birds will then complete laying of a normal clutch.

31333. Remove small numbers of eggs or young from reproductively stable, local populations or in extreme instances where eyries are jeopardized.

No reproductively stable populations are known in the region at present, but they may appear as recovery is effected.

31334. Acquire juveniles or adults which are injured.

This source can be expected to yield only a few useful birds over the projected recovery period.

3134. Maintain studbook records.

This crucial aspect of propagation will be the responsibility of the supervisor of the breeding project. A duplicate copy of breeding records, updated at the close of each breeding season, must be received by the Recovery Team. Data must include permanent falcon identification numbers, region of origin, parentage, and history of mate.

314. Maximize the captive production of healthy young.

Excellent success has been achieved since 1973 in breeding large falcons in captivity. However, in at least three instances, abnormal young of certain species have been produced. Care must be taken to cull all but completely healthy birds from the stock.

3141. Refine captive rearing techniques.

The most difficult aspect of the captive breeding process is artificial incubation of eggs. Tests should be undertaken to increase success of this technique, and tests evaluating incubation of falcon eggs by other species should be initiated immediately.

Artificial insemination needs to be perfected; a success rate of less than 40 percent is presently being achieved. Methods for predicting compatible members of the pair and for detecting pairs unlikely to breed, will result only from further experience and testing.

3142. Minimize genetic homogeneity by cross-matching birds with unlike lineages within and among projects, but avoid interbreeding *anatum* peregrines with other subspecies.

At least three small private breeding projects hold *anatum* peregrines native to the Rocky Mountain/Southwest Region. Trades and loans should be sought to increase variation within the subspecies. The risk to any endangered species, where the remnant population, wild or captive, is small, is that surviving stocks may not be representative of the genetic variation formerly found in the species when it was more abundant. Since relatively few birds are held as captive breeding stock, every reasonable means must be taken to insure that many different individuals contribute genes to the captive stock over the years. The resulting variation provides a base for natural selection when the birds are released and tested in the wild under natural conditions. This increase in outbreeding must be facilitated by reasonable regulations governing the inter-project transportation of falcons.

32. Release 75 or more captive-produced birds per year under conditions optimizing survivorship.

A minimum of 75 or more captive-produced peregrine falcons from known lineage and acceptable health must be released annually to have any augmentative impact on the wild populations. The captive-produced falcons must be released under conditions which minimize natural mortality and maximize opportunities of mating with either wild falcons or other captive-produced falcons. Priorities for release of these captive-produced peregrines will be cooperatively developed between the respective state wildlife agencies and the Recovery Team.

321. Obtain necessary field data annually on nesting chronology of known wild pairs to serve as foster parents and to augment their clutches/broods with eggs/young from captive breeding.

It will be necessary to monitor every known wild eyrie to determine suitability for placement of captive-produced eggs or young. Certain essential dates must be known before captive-produced eggs or young can be placed in wild eyries.

3211. Obtain necessary field data on egg production.

The dates when egg laying begins and ends at wild eyries must be determined. Fertility of the eggs in the wild clutch must be established to decide how many captive-produced eggs are needed to augment productivity of the clutch. Captive-produced eggs, which are to be placed in a wild clutch, must have been laid in approximately the same time frame as the wild clutch, so hatching will occur simultaneously. If these conditions are met, captive-produced eggs can probably be placed with the wild clutch any time within the first four weeks of incubation. This time period also will allow the observer to determine if any egg breakage occurs in the wild clutch and, therefore, make any necessary modifications in the numbers of captive-produced eggs which are to be placed in the wild clutch.

3212. Obtain necessary field data on brood production.

Immediately after the wild falcon eggs hatch, the number and viability of the young produced must be determined. According to the data gathered above (and after a survey of the prey base at the wild eyrie), the observer should be able to determine how many captive-produced young can be placed successfully in the wild eyrie. Any captive-produced young which are to be placed in wild eyries must be very close to the same age as their wild counterparts.

Any captive-produced falcons which are hand raised should be placed in the wild eyrie at no more than two to three weeks of age to eliminate any problems of human imprinting. (After two weeks of age, the young falcon may imprint on its human "parent" and, therefore, not respond properly to its wild parent or sibling.)

If, on the other hand, the captive-produced young falcon is raised by its captive parents, free of human interference, it is safe to place the young bird in a wild eyrie up to four weeks of age. Captive-produced young should be placed in the wild eyrie no later than four weeks of age so they can become habituated properly to the wild eyrie site prior to fledging at approximately six weeks of age.

322. Develop successful means of release, including intraspecific foster parents, interspecific foster parents, and "hack" techniques of young and adults.

Release methods which obtain the highest survivorship with the greatest potential for future breeding in the wild should be utilized. Several release alternatives must be available to the field workers for maximum flexibility. The people engaged in the release programs must have considerable experience in handling young to avoid any mishaps which might setback or stop the release program.

Jobs 3221, 3222 and 3223 will each cost approximately $2,500 per site to accomplish. For budgeting purposes, all jobs related to release of young have been combined, since it is uncertain which task will be utilized. It will be the responsibility of the state wildlife agencies to select the locality and method of release. The most reliable reintroduction method involves placement of the captive-produced peregrines in eyries of wild peregrines, and if wild breeding peregrines are still available, this technique should be considered first. Those states lacking a wild breeding population of peregrines will naturally be restricted to the other two alternative reintroduction methods outlined in Jobs 3222 and 3223.

3221. Release captive-produced young with intraspecific foster parents.

After hatching dates and viability of wild young at wild eyries (Jobs 3211 and 3212) are known, those eyries must be evaluated for possible introduction of captive-produced young peregrines to increase the brood size. If the wild eyries are found to be suitable, then captive-produced young of approximately the same age as their wild counterparts should be placed in the eyries prior to two or four weeks of age, depending on the method used to raise the young (Job 3212).

3222. Release captive-produced young with interspecific foster parents.

It has been demonstrated that under some circumstances successful releases can be accomplished by placing young of one species with adults of another species; for example, a peregrine young with wild prairie falcons (Falco mexicanus) or cliff nesting red-tailed hawks (Buteo jamaicensis). Specific dates must be known about egg hatching (Jobs 3211 and 3212). If the interspecific release is deemed suitable, then all the young in the wild eyrie or nest should be replaced by captive-produced peregrines. Since young falcons may imprint on siblings rather than on the adults, total clutch replacement may alleviate any problems with future mate selection. Due to unanswered questions associated with this technique, this task should not be implemented until ongoing research projects indicates that this is a sound management technique.

3223. Release captive-produced young by means of "hack" techniques.

"Hack" is a traditional falconry procedure which allows fledgling raptors to fly free under controlled conditions for up to a month as a first step in training. On occasion falconers release trained raptors to the wild over a period of time until the birds become self-sufficient and can be left out permanently.

For the purposes of release of captive-produced young, both of the above methods will be used. The "hack" of fledgling raptors might be used in those areas where peregrines were formerly present or where the locations have been determined to be suitable. If the "hack" of fledgling peregrines is to be undertaken, a qualified individual must be hired to live at the release site. The site must be prepared in advance by constructing a suitable "hack" house for the fledglings. Fresh food must be supplied daily. In addition, the observer must protect the young falcons from avian and mammalian predators. All of the young birds must be marked with Fish and Wildlife Service bands and color markers. It may be helpful to telemeter the birds in order to track their movements (Job 112).

At several peregrine eyries in the Rocky Mountain/Southwest Region, single adults without mates have been observed over a period of several years. An adult captive-produced peregrine can be injected into such a situation. To accomplish this, young peregrines must be placed in the hands of carefully selected individuals to train and to fly the birds regularly at natural prey for a period of up to two years. When a lone adult is found at an eyrie, a suitable mate held by a trainer for this purpose would be released at the site. The trainer must stay in the release area until the captive-produced adult is self sufficient and is accepted by the wild adult. Captive-produced adults released under such circumstances should be marked with Fish and Wildlife Service bands and color markers.

The Peregrine Fund, Inc. of Cornell University is presently utilizing this technique in introduction efforts in the eastern United States. Before undertaking this technique in the Rocky Mountain/Southwestern Region, Cornell should be contacted for the latest refinements of the technique.

33. Establish a field research program to evaluate progress of restocking program.

An ongoing research program must be undertaken to determine the success or failure of the release program. Continual evaluation and flexibility must be an inherent quality of the restocking program so that, on the basis of field research, timely decisions can be made to change the program.

331. Place U. S. Fish and Wildlife Service bands on all released birds.

Fish and Wildlife Service bands will be placed upon all released peregrines encountered in the process of accomplishing Jobs 221, 222, 31331, and 31333. In addition, wild peregrines encountered during accomplishment of the aforementioned tasks also will be banded. Since the actual banding can be accomplished concurrently with other jobs, it is not necessary to assign a cost to this task.

332. Place color markers and radio transmitters on released birds.

In addition to Job 331, a color-coded marker will be placed on released birds. These color bands will be coded to identify species/subspecies and geographic location.

As part of the ongoing research program, it will be valuable, in certain cases, to radio telemeter various individuals to determine post fledging success. Careful consideration must be given to the types of radio transmitters used so a young bird is not unduly burdened.

If radio telemetry is to be used, a tracking team must be formed to follow each bird or group of birds. In order to obtain the maximum amount of usable information, the birds must be tracked diligently so they are not lost prior to exhaustion of the transmitter power source.

This task will be accomplished concurrently with Jobs 1121, 1122, and 11221, thus no actual budget is assigned to this job.

333. Systematically search historical eyries for released birds.

It will be incumbent upon land management agencies, cooperating agencies and individuals to make a thorough annual search of known historical eyries in the vicinity of captive-propagated peregrine releases. Historical eyrie sites will have to be checked several times during the breeding season. Particular attention must be paid to each site in the early spring when it would be most likely for a lone captive-produced peregrine to attempt to break into an already existing pair of wild falcons or to pair up with a single wild falcon.

Successful completion of this part of the program depends upon the complete marking system outlined in Jobs 331 and 332.

334. Establish a region-wide system to report sightings of released birds to gain information.

Under the auspices of the peregrine recovery team, a region-wide system must be established to report and verify sightings of released birds. Such a program is absolutely necessary to evaluate the success of the release part of the recovery plan.

Throughout the entire region where captive-produced birds are to be released, individuals, agencies and organizations must be alerted to watch for the released birds. A central location or individual will need to be established to gather data on all sightings. In addition, a standard information sheet or card will be sent to all people contacted, outlining the information desired if a sighting is made. If any sightings are made, they should be relayed immediately to the central location or individual.

335. Evaluate research results and apply findings.

Data obtained in Tasks 331, 332, 333, and 334 will be evaluated as it is collected. The findings that are applicable for implementation in the recovery efforts will be recommended to the Recovery Team by the researchers. The Recovery Team will incorporate the necessary changes in the recovery plan.

Budgeting is not shown for this job as it is to be included as part of Jobs 331, 332, 333 and 334 and the Recovery Team activities.

4. Conduct information and education programs designed to gain support for protection of and efforts to restore the peregrine.

People management will become one of the most important elements of peregrine recovery efforts. The peregrine already has achieved national significance and relative to other endangered species is among the most "popular" so far as public interest. A well-designed and executed public education program will shape agency and public opinion to assist efforts to restore the peregrine. While the primary goal is to reestablish the peregrine, increased public awareness and support also will generate additional funding for restoration efforts.

A good communication program will help solve some of the problems facing the peregrine through: discouragement of the use of DDT and Dieldren; enhancement of prey availability by influencing farmers and others to plant and maintain suitable forage and cover crops; education of school-age children before negative opinions develop toward raptors in general; reduction of human activity and disturbance in key production or foraging areas; and reduction of thoughtless shooting.

Since the information-education program is of such broad scope, it naturally leads one to the conclusion that the program should be adopted as a national program by all peregrine recovery teams. The best program will result if all efforts are made the responsibility of a single organization.

41. Develop and produce needed information and education materials.

The task of developing and disseminating newsletters, brochures, films, film strips, news releases, etc., will be the responsibility of a single agency. Due to time, budget and personnel constraints, it is not feasible to expect a public agency to take charge of such a program. Therefore, a private marketing firm should be considered as a contract recipient to implement the program. Such firms have had a great deal of experience with public relation activities. In considering a firm, it would be helpful if its director or similar such person were oriented toward natural resource related work and possessed more than a passing knowledge and interest in raptors. A copy of an I&E program proposal submitted to the Recovery Team is reprinted in Appendix C as an excellent example of what could be expected from a private advertising agency.

411. Develop color brochures and posters.

Definitive, four-color folders describing the peregrine, including its identification, a brief life history and recovery efforts underway will be printed in large quantities (on the order of 100,000) and distributed to public agencies to be made available to the public. In addition, a large 20" x 30" poster of the peregrine with a brief message will be produced (quantity of at least 10,000) and sent to the agencies for display.

412. Develop audio-visual programs for loan to schools and local conservation groups.

Slide series, film strips and movies will be developed for use in conservation-education programs and will be made available to the public through loan from various public agencies. These programs will discuss the peregrine, its life history, habitat needs and activities underway to restore the peregrine to its former range. The programs also will include discussions on agency and public participation and support.

413. Develop press release kits with photographs.

Appropriate state conservation agencies will be provided with press releases about various peregrine-related programs. Press kits which are tailored to each particular medium (tapes or scripts for radio stations, color slides or film for television, glossy photographs and lead articles for newspapers) will be provided to the agencies.

414. Develop hunter posters, leaflets and signs.

Gunshot is responsible for a percentage of peregrine mortality. It is essential that the shooting public be informed about the bird's significance, identification, and proposed recovery efforts. Identification leaflets and fact sheets will be developed and distributed to hunters. Hunting areas should be posted with identification posters and leaflets made available at checking stations. Small, single-color signs might be posted admonishing hunters not to shoot any raptors, as they are protected by federal and state laws.

415. Develop public service ads.

Considerable benefits are obtained by furnishing public service advertisements to various magazine and newspaper publishers. These ads should be developed and furnished to a publisher to use when space is available in his publication.

416. Develop and provide audio-visual packets for use on television and radio.

By FCC regulations, public service time is available on radio and television to broadcast information relative to the peregrine's plight. Taped, one-minute spots will be prepared for television stations and appropriate state Information-Education Departments. Likewise, prepared tapes or scripts should be made available to radio stations.

417. Develop films on the peregrine falcon.

A 16mm film will be produced with enough prints to allow rotation among television stations, as well as distribution to state and federal agencies and conservation organizations. The film's theme will reflect the philosophy of the peregrine recovery effort. It should be of "award winning" caliber to insure wide exposure.

42. Make the public aware of the peregrine, its plight, habitat needs and recovery efforts currently underway.

The success of the peregrine recovery program depends upon public acceptance. Activities of private citizens and public agencies must be supported by the public as a whole before the efforts expended will effectively lead toward the recovery of peregrine populations throughout the country. Various media must be utilized for an effective and successful public education program.

421. Initiate "Endangered Species Week".

The peregrine falcon would receive considerable benefit through the establishment of a Presidentially proclaimed "Endangered Species Week". Peregrine recovery teams, in cooperation with the Fish and Wildlife Service, would develop a complete, detailed endangered species package. The program could be initiated through political channels by either a Secretary's office or a Congressman. While a different species would be highlighted each year, it is hoped that the peregrine would be the symbol for all endangered species. The striking appearance of the peregrine coupled with its dashing style lends itself beautifully as such a symbol. All public agencies would use this symbol when dealing in programs or publications on endangered species, and the peregrine would be an indirect beneficiary. The week will serve as the time for added emphasis throughout the country on endangered species education.

422. Provide printed and audio-visual material for dissemination by public agencies and conservation organizations.

While the public relations departments of many public agencies cannot afford the money or manpower necessary to develop the materials, most are eager to utilize those materials which are supplied to them. Therefore, well-designed information packets, news releases, public service announcements, slide shows and films developed in Job 41 will be made available for their use whenever possible.

423. Conduct public attitude surveys to determine effectiveness of this information-education program.

Ideally, a program of this scope will include a pre-campaign survey of the public attitude toward peregrines and raptors in general. After the program has been in operation for a year, a second campaign study will determine the influence the program has had upon public attitude. While the program can be conducted without the survey, this is the only true means of measuring its effectiveness.

43. Make public agencies aware of peregrine identification, habitat needs, and recovery efforts currently underway and clarify agency responsibilities in the peregrine recovery effort.

Responsibilities for endangered species and their critical habitats are unclear to most land managing agencies. In spite of clarification written into the Endangered Species Act of 1973, land managing agencies need clear-cut clarification of their responsibilities for endangered species and critical habitats within their jurisdiction. This clarification must originate from specific Offices of the Secretary (Interior and Agriculture).

Additionally, many state conservation agencies are concerned about possible usurpation of states' rights by Federal involvement in their resident wildlife species. Many well-intentioned efforts are likely to be viewed with suspicion, and full state cooperation and support may be difficult to achieve. These problems can only be surmounted by fluent communication between all agencies.

431. Provide workshops for public agencies to inform them of their responsibilities for endangered species and involve them in information-education programs.

Most public agency personnel have little experience in identification of peregrines and much less experience in determining its critical habitat. Workshops will be developed to inform agency personnel about peregrine identification, recognition of peregrine critical habitat, and management of habitat.

Separate workshops will deal specifically with presentation of conservation programs by the agencies to the public. Materials such as brochures, information leaflets, posters, photographs, slide series, and films will be made available and their application discussed. These media short courses will explain how to get the the most publicity on the recovery effort. It will present updated information on use of media and will provide a local tie-in in every state. This will be useful to agencies in areas other than the peregrine effort.

432. Initiate, produce and disseminate a periodic newsletter.

It is imperative that the Recovery Team keep all cooperators and interested parties informed of progress made toward restoration of the peregrine. A newsletter format will be designed and mailing lists compiled. The newsletter would be mailed out at least bi-monthly and more frequently as activities necessitate. The newsletter should be of an inexpensive format and self-mailing.

5. National/International coordination and cooperation.

Because the various subspecies of peregrines, especially the arctic peregrine, frequently migrate across international borders, participation and coordination among the four peregrine falcon recovery teams, the Canadian provinces, Mexico and other Latin American countries is imperative.

51. Coordinate national peregrine falcon recovery teams through an interteam committee.

The four peregrine falcon recovery teams are simultaneously developing recovery plans for their particular regions of responsibility. These plans will be similar in thrust, but different in certain implementation procedures to suit unique requirements in their areas of jurisdiction. For example, the Eastern Team's plan orientation will be directed toward reestablishing an extirpated population, the West Coast Team's plan will be concerned with protection of existing active eyries which apparently are not suffering low reproductive success, and the Rocky Mountain/ Southwest Team's plan will be aimed at augmenting poor natural reproduction. The Arctic Team's plan will most likely be occupied with reducing application of detrimental pesticides in Latin American countries where arctic peregrines and their prey winter. It also is quite apparent that a unified approach would be the most effective means of implementing various portions of each of the four teams' plans such as information and education endeavors, telemetry and migration studies.

To implement the recovery plans of the four teams, a high degree of coordination will be necessary to effect saving of time and to assure efficient utilization of limited financial resources.

The most effective means of coordinating the recovery teams is internally through an inter-team committee consisting of team leaders or their designated representatives from each of the four teams. The committee should meet at regular intervals to discuss problems of mutual concern. At this time, expenses for one member of the Rocky Mountain/Southwest Team have been budgeted to attend semi-annual inter-team meetings. In actuality, much of the committee's business may be handled by correspondence to reduce expenses.

511. Oversee a national information and education program relative to peregrine falcon recovery efforts.

Information and education programs outlined in each of the Recovery Teams' plans will best be implemented through one national program that satisfies all four plans' requirements. The Rocky Mountain/ Southwest Recovery Team will be responsible for, and budget, the national information and education program. The plans of the other three recovery teams will refer to the appropriate budget sections of the Rocky Mountain/Southwest Team's plan.

In practice, a committee consisting of one member from each of the recovery teams will recommend and approve various I&E approaches to assure that the program is properly coordinated.

512. Review and recommend for approval research proposals and efforts relative to peregrine falcons.

When a species is classified as endangered, public interest is generated and the number of research applications and other proposed activities involving the species are intensified. Thus, the potential for redundant and poorly planned and implemented research also increases. Although many of the research proposals appearing before the Rocky Mountain/Southwest Team have merit, they essentially duplicate activities already underway or proposed to other recovery teams. An inter-team committee would eliminate these problems by reviewing the proposals and endorsing those studies which are pertinent to the recovery of the peregrine. The committee also would identify those areas in which additional research is needed. Documents resulting from completion of approved research projects will be circulated to all teams to keep them informed of recent developments and findings. The value of such a coordinated approach is illustrated by Cornell University's research into reintroduction techniques which is coordinated with the Eastern Team. Once these techniques have been developed, they will be made available to the other teams for application in their recovery efforts. A serious waste of time and finances would result if each team requested separate research.

513. Coordinate various cooperative phases of recovery plans when mutually desirable.

At various times, certain tasks delineated in one team's plan may be effectively assisted by agencies from another team's area of responsibility. An example would be monitoring the migration of arctic peregrines through the lower 48 states. The inter-team committee would coordinate the effort among all cooperators to provide meaningful data to the Arctic Team. Additionally, other teams may wish to utilize the same system and telemetry equipment to monitor movements of populations for which they are responsible. The committee also would act as a central receiving house to compile sightings of colormarked individuals (Jobs 1121, 1122, 11221 and 332).

52. International (Western Hemisphere) coordination and cooperation.

Since the various subspecies of peregrines unfortunately do not recognize international borders and migrate freely from one country to another, recovery efforts confined to the United States will never be completely effective. Thus, to effectively implement respective recovery plans, the active cooperation and support of Canada, Mexico, and Central and South American countries must be obtained. This problem is mutual, since those peregrines which are released in Canada to enhance their peregrine populations will undoubtedly migrate at least into the United States and probably into Latin America. Because of the international nature of the peregrine recovery effort, the primary responsibility for coordination and completion of this task must rest with the Fish and Wildlife Service directorship in Washington. The Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, and the USA-Mexico Joint Committee on Wildlife Conservation should provide the means to accomplish this objective.

521. Liaison and information exchange among nations.

Neighboring nations must be informed of recovery efforts underway in the United States and should be invited to actively participate in these programs. These countries should be informed as to where their cooperation is essential for the success of our recovery efforts. Involvement of some of the Latin American countries may be elicited by regularly providing them with details of recovery efforts. Eventually, an international peregrine coordination group should be established. Canada's progressive peregrine restoration program illustrates the need for such coordination.

522. Implement international cooperative activities to restore the peregrine.

Internationally coordinated research programs which should be considered for implementation are: telemetry, colormarking and banding studies to track migrant and wintering falcons; studies to establish and describe preferred wintering areas; prey analysis to determine important prey taken by migrant and wintering peregrines; and pesticide analysis of key prey species. A campaign should be mounted to curtail and eventually eliminate application of chlorinated hydrocarbon pesticides and encourage utilization of less harmful substitutes. Finally, protection of the peregrine and its habitat should be encouraged through law enforcement and information-education efforts.

5221. Develop cooperative research programs.

International cooperation will be necessary to accurately determine migration routes and wintering areas of peregrines as well as the prey utilized along migration routes and in the wintering areas. The United States may harbor wintering Canadian anatum peregrines, and arctic peregrines which migrate through the United States and Mexico on their way to and from South and Central American wintering areas. There is evidence that the more sedentary Rocky Mountain population migrates and winters at least as far south as Central Mexico. Since a variety of countries are involved, research programs must be coordinated, especially with regard to colormarking and telemetry studies. If telemetry studies are implemented, teams that are tracking the falcons must have the freedom to cross international boundaries while tracking individual falcons. International research efforts also must be implemented to locate wintering areas of prey species in Central and South America. The prey will have to be sampled to establish the pesticide loads they carry, and if high levels are present, sources must be established.

5222. Decrease and eventually eliminate international use of detrimental pesticides.

It is well known that chlorinated hydrocarbon pesticides which have been banned from application in the United States are being exported for use in South and Central American countries. Proposed studies may show that prey species which winter in those countries are accumulating chlorinated hydrocarbons. If true, these pesticides also will eventually be transferred to the less migratory *anatum* peregrine that prey on these species during the summer. The more migratory arctic peregrines may be constantly exposed to these contaminated prey. Should this prove to be the case, an international effort must be made to curtail use of chlorinated hydrocarbons and substitute other, safer chemicals.

5223. Develop international law enforcement and habitat protection programs.

Law enforcement activities authorized through the Migratory Bird Treaty Act with Mexico should be strengthened and similar efforts developed with other Latin American countries. Proper authorities must be encouraged to limit or curtail those programs which will adversely affect habitats which are important to wintering peregrines. Drainage of extensive coastal and inland swamps and other wetland areas will impact the peregrine's prey, indirectly affecting the peregrine.

5224. Develop international information and education programs relative to the peregrine.

Information and education programs proposed in section 4 are directly applicable to Canada with little alteration. These programs also can be easily adopted for international use to assure protection of peregrines while they are wintering in Latin America.

BUDGET

If, upon reviewing the budget or step-down portion of the plan, more information is required, please refer to the narrative section for the particular job. The narrative section serves primarily to provide justification for the budget and describe specific actions which are to be accomplished by each job. In several cases, jobs are combined to be accomplished concurrently and a budget is assigned to the entire group.

The budget has been broken into separate components for assignment of costs to responsible agencies. That amount which has been budgeted for state conservation agencies are total costs required for them to implement each job. The state will be expected to fund the activity through their own sources or federal assistance funds. Federal agencies will be expected to allocate their own funds to implement portions of the plan for which they are responsible. As more information becomes available, various portions of the budget will have to be revised.

Various jobs are ranked in order of priority for accomplishment and those jobs of equal magnitude are awarded the same priority ranking and should be undertaken concurrently. Priority ranking and time frames for specific jobs may change from state to state or agency to agency (see proposed budget -- summarized by state) depending upon the degree of participation and interagency cooperation in the recovery effort expected within each state. The budget has been developed only for those jobs which the Recovery Team believes should be completed within five years after the plan is approved. The schedule as proposed will vary depending upon funding made available to the respective state, federal, or other cooperating agencies. Because of funding limitations and the lack of cooperative agreements, it is impossible to achieve perfect phasing of similar tasks in each state; therefore, fiscal years are not assigned to the budget. However, Year 1 tentatively corresponds to FY 1978. The Recovery Team will be available to assist participating agencies in modifying or restructuring their priorities where the above-mentioned delays are unavoidable.

The agency assignments within the budget were based upon the following assumptions:

1. State agencies would fund the tasks concerned with species management within the state as well as work on non-federal lands;
2. Federal land management agencies would fund those tasks concerned with the protection and management of essential peregrine habitats on lands under their administrative jurisdiction.
3. Fish and Wildlife Service would fund those tasks which by their nature involve interstate or international activities (ie., radio telemetry investigations,

captive propagation, national and international information-education programs and all tasks under 5.). Additionally, habitats on Indian lands and law enforcement activities on all lands are their responsibility.

Particular agencies are designated as coordinators (see proposed budget -- summarized by job) for each job. The coordinator may not necessarily be responsible for funding the job to be accomplished and the cooperating agencies would be expected to provide the financing. The coordinating agency will be responsible for supervising and assuring uniformity of the work by cooperators.

ABBREVIATIONS FOR AGENCIES

Abbreviations	State Agencies
AG&FD	Arizona Game and Fish Department
CDOW	Colorado Division of Wildlife
IF&GD	Idaho Fish and Game Department
KFF&GC	Kansas Forestry, Fish and Game Commission
MF&GD	Montana Fish and Game Department
NG&PC	Nebraska Game and Parks Commission
NMDG&F	New Mexico Department of Game and Fish
NDG&FD	North Dakota Game and Fish Department
ODWC	Oklahoma Department of Wildlife Conservation
SDDGF&P	South Dakota Department of Game, Fish and Parks
TP&WD	Texas Parks and Wildlife Department
UDWR	Utah Division of Wildlife Resources
WG&FD	Wyoming Game and Fish Department

Abbreviations	Federal Agencies
BLM	Bureau of Land Management
FWS	Fish and Wildlife Service
NPS	National Park Service
FS	Forest Service

ESTIMATED ANNUAL EXPENDITURE
BY AGENCY

Agency	1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
Arizona Game and Fish Department	$10,000	$15,500	$22,500	$12,500	$12,500
Colorado Division of Wildlife	34,250	36,250	51,000	41,000	31,000
Idaho Fish and Game Department	7,750	15,250	22,500	12,500	12,500
Kansas Forestry, Fish & Game Commission	500	2,500	500	500	500
Montana Fish and Game Department	10,000	13,500	19,000	6,500	6,500
Nebraska Game and Parks Commission	1,000	7,000	1,000	1,000	1,000
New Mexico Dept. of Game and Fish	28,500	37,000	50,000	30,000	30,000
North Dakota Game and Fish Department	5,000	7,000	4,000	4,000	4,000
Oklahoma Dept. of Wildlife Conservation	500	500	500	500	500
South Dakota Dept. of Game, Fish & Parks	1,000	1,500	6,000	1,000	1,000
Texas Parks and Wildlife Department	21,500	41,000	38,500	18,500	18,500
Utah Division of Wildlife Resources	9,000	14,000	9,000	6,500	6,500
Wyoming Game and Fish Department	13,000	15,000	14,500	9,500	9,500
Bureau of Land Management	20,300	67,050	76,550	36,500	16,550
Fish and Wildlife Service	252,800	209,800	219,800	168,800	178,800
Forest Service	42,300	117,750	144,300	89,300	64,300
National Park Service	35,300	73,550	82,050	42,050	22,050
Cost of Jobs 321, 322, 331, 332, 3211 and 3212. 1/	12,500	20,000	37,500	62,500	62,500
TOTAL	$505,200	$694,200	$799,200	$5[illegible]3,200	$478,200

1/ Note--Cost per agency has not yet been determined for Jobs 321, 322, 331, 332, 3211 and 3212 (augment wild population with captive produced young) since reintroduction sites have not yet been selected. Therefore, estimated annual costs for the entire program are included. Later, costs will be assigned to individual agencies when the information is available.

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included). Tasks 11111., 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	Colo. DOW	$1,000 per site	5	State Wildlife Agency	$5,000	-0-	-0-	-0-	-0-
		Mont.F&GD		1		1,000	-0-	-0-	-0-	-0-
		N.M.DG&F		3		3,000	-0-	-0-	-0-	-0-
		N.Da.G&FD		1		1,000	-0-	-0-	-0-	-0-
		Wyo.G&FD		1		1,000	-0-	-0-	-0-	-0-
		FS		15		15,000	-0-	-0-	-0-	-0-
		BLM		3		3,000	-0-	-0-	-0-	-0-
		NPS		11		11,000	-0-	-0-	-0-	-0-
				40		40,000				
3	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	Ariz.G&FD	$500 per site	6	State Wildlife Agency	-0-	3,000	-0-	-0-	-0-
		Colo.DOW		4		-0-	2,000	-0-	-0-	-0-
		Ida.F&GD		5		-0-	2,500	-0-	-0-	-0-
		KS.FF&GC		4		-0-	2,000	-0-	-0-	-0-
		Mont.F&GD		9		-0-	4,500	-0-	-0-	-0-
		Neb.G&PC		2		-0-	1,000	-0-	-0-	-0-
		N.M.DG&F		3		-0-	1,500	-0-	-0-	-0-
		N.Da.G&FD		6		-0-	3,000	-0-	-0-	-0-
		S.Da.DGF&P		1		-0-	500	-0-	-0-	-0-
		TexasP&WD		4		-0-	2,000	-0-	-0-	-0-
		Utah DWR		10		-0-	5,000	-0-	-0-	-0-
		Wyo.G&FD		1		-0-	500	-0-	-0-	-0-
		F&WS		2		-0-	1,000	-0-	-0-	-0-
		FS		47		-0-	23,500	-0-	-0-	-0-
		BLM		21		-0-	10,500	-0-	-0-	-0-
		NPS		23		-0-	11,500	-0-	-0-	-0-
				148			74,000			

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.	Ariz.G&FD			State Wildlife Agency	-0-	-0-	10,000	-0-	-0-
		Colo.DOW				-0-	-0-	10,000	10,000	-0-
		Ida.F&GD				-0-	-0-	10,000	-0-	-0-
		Mont.F&GD				-0-	-0-	10,000	-0-	-0-
		Neb.G&PC				-0-	5,000	-0-	-0-	-0-
		N.M.DF&G				-0-	-0-	10,000	-0-	-0-
		N.Da.G&FD				?	?	?	?	?
		S.Da.DGF&				-0-	-0-	5,000	-0-	-0-
		TexasP&WD				-0-	10,000	10,000	-0-	-0-
		F&WS				-0-	30,000	40,000	10,000	-0-
		FS				-0-	70,000	120,000	65,000	40,000
		BLM				-0-	40,000	60,000	20,000	-0-
		NPS				-0-	40,000	60,000	20,000	-0-
							195,000	345,000	125,000	40,000
5	1121., 1122., 1123. & 1124. Initiate telemetry studies at one site in Colorado, Idaho and New Mexico. Est. Cost - $25,000 per year for a 2-year study at each site.	F&WS	$50,000 per study	3 studies	Fish and Wildlife Service	25,000	25,000	25,000	50,000	25,000
1	121., 1221., 1223., 131., 132., 1331., 1332. 211., 231., 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Ariz.G&FD			All Concerned Agencies	2,500	2,500	2,500	2,500	2,500
		Colo.DOW				2,500	2,500	2,500	2,500	2,500
		Ida.F&GD				2,500	2,500	2,500	2,500	2,500
		Mont.F&GD				2,500	2,500	2,500	2,500	2,500
		Neb.G&PC				500	500	500	500	500
		N.M.DG&F				2,500	2,500	2,500	2,500	2,500
		N.Da.G&FD				500	500	500	500	500
		S.Da.DGF&P				500	500	500	500	500
		TexasP&WD				2,500	2,500	2,500	2,500	2,500
		Utah DWR				2,500	2,500	2,500	2,500	2,500
		Wyo.G&FD				2,500	2,500	2,500	2,500	2,500
		F&WS				9,000	9,000	9,000	9,000	9,000
		FS				16,000	16,000	16,000	16,000	16,000
		BLM				10,500	10,500	10,500	10,500	10,500
		NPS				10,000	10,000	10,000	10,000	10,000
						67,000	67,000	67,000	67,000	67,000

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1222. (a) Annual observation to prevent disturbance at 2 sites in Colo. (1 site by FWS and 1 shared by CDOW & FWS), 2 sites in New Mexico (1 site by FWS and 1 shared by NMDG&F & FWS) and 1 in Utah (1 site by NPS)	Colo.DOW	$5,000 per site	½ site		2,500	2,500	2,500	2,500	2,500
		N.M.DG&F		½ site		2,500	2,500	2,500	2,500	2,500
		FWS		3 sites		15,000	15,000	15,000	15,000	15,000
		NPS		1 site		5,000	5,000	5,000	5,000	5,000
						25,000	25,000	25,000	25,000	25,000
	(b) Signing and administrative closures to eliminate disturbance	FS	$1,000 per site 1st yr. $250 annually to maintain	4		4,000	1,000	1,000	1,000	1,000
		BLM		1		1,000	250	250	250	250
		NPS		3		3,000	750	750	750	750
						8,000	2,000	2,000	2,000	2,000
7	123. Negotiate cooperative agreement with private landowner to protect one eyrie site in Colorado.	Colo.DOW	$250 per site	1	State Wildlife Agency	250	-0-	-0-	-0-	-0-
7	124. Negotiate cooperative agreement for management of Colorado eyrie on city lands.	Colo.DOW	$250 per site	1	State Wildlife Agency	-0-	250	-0-	-0-	-0-
9	125 and 224. Initiate research to develop ways of enhancing eyrie to increase production.				State Wildlife Agency		?	?	?	?
2	212. Monitor contaminant levels by sampling pesticide levels in egg shells and prey species.									
	Collect prey sample	Colo.DOW	$250 per site	2 s/y	State Wildlife Agency	500	500	-0-	-0-	-0-
		Ida.F&GD		1 "		250	250	-0-	-0-	-0-
		N.M.DG&F		2 "		500	500	-0-	-0-	-0-
		TexasP&WD		2 "		500	500	-0-	-0-	-0-
						1,750	1,750	-0-	-0-	-0-
	Analyze egg samples	FWS	$100 per sample	35 samps.		3,500	3,500	3,500	3,500	3,500
	Analyze prey samples	FWS	$2,000 per site	7 sites		14,000	14,000	-0-	-0-	-0-

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	Ariz.G&FD	$500 per site	3 sites	State Wildlife Agency	1,500	1,500	1,500	1,500	1,500
		Colo.DOW		15 sites		7,500	7,500	7,500	7,500	7,500
		Ida.F&GD		3 sites		1,500	1,500	1,500	1,500	1,500
		Mont.F&GD		1 site		500	500	500	500	500
		N.M.DG&F		8 sites		4,000	4,000	4,000	4,000	4,000
		N.Da.G&FD		1 site		500	500	500	500	500
		TexasP&WD		5 sites		2,500	2,500	2,500	2,500	2,500
		UtahDWR		1 site		500	500	500	500	500
		Wyo.G&FD		2 sites		1,000	1,000	1,000	1,000	1,000
						19,500	19,500	19,500	19,500	19,500
2	222. Manipulate clutches on an annual basis Number of sites to be manipulated in the first five years	Ariz.G&FD	$2,500 annually	See details under Task	State Wildlife Agency	5,000	7,500	7,500	7,500	7,500
		Colo.DOW				5,000	10,000	17,500	17,500	17,500
		Ida.F&GD				2,500	7,500	7,500	7,500	7,500
		Mont.F&GD				2,500	2,500	2,500	2,500	2,500
		N.M.DG&F				5,000	15,000	20,000	20,000	20,000
		N.Da.G&FD				2,500	2,500	2,500	2,500	2,500
		TexasP&WD				5,000	12,500	12,500	12,500	12,500
		Utah DWR				2,500	2,500	2,500	2,500	2,500
		Wyo.G&FD				2,500	5,000	5,000	5,000	5,000
						32,500	65,000	77,500	77,500	77,500

State	1st	2nd	3rd	4th	5th
Ariz.	2	4	4	4	4
Colo.	2	4	7	7	7
Ida.	1	3	3	3	3
Mont.	1	1	1	1	1
N.Mex.	2	6	8	8	8
N. Dak.	1	1	1	1	1
Texas	2	5	5	5	5
Utah	1	1	1	1	1
Wyo.	1	2	2	2	2
	13	27	32	32	32

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
7	223. Initiate and conduct research to enhance prey availability. 1 site in Colo. and 1 in New Mexico.	FWS	$ 10,000 per site	2 sites	State Wildlife Agency	20,000	20,000	20,000	20,000	20,000
3	233, 334, 1111, 3134, 51. Participate on and operate the Recovery Team to act as central location for compiling and disseminating information.	FWS FWS FS BLM NPS	Team Expenses 1 member 1 member 1 member 1 member		Fish and Wildlife Service	4,000 1,800 1,800 1,800 1,800	4,000 1,800 1,800 1,800 1,800	4,000 1,800 1,800 1,800 1,800	4,000 1,800 1,800 1,800 1,800	4,000 1,800 1,800 1,800 1,800
	Total					11,200	11,200	11,200	11,200	11,200
1	311. Build facilities for 12 pair falcons at propagation facilities at Fort Collins being operated by Cornell University.	FWS	$ 23,000	1 site	Peregrine Fund of Cornell Univ.	23,000	-0-	-0-	-0-	-0-
1	312, 3134., 3141., 3142., 3131. and 3132. Maintain and operation propagation facility at Fort Collins in cooperation with Peregrine Fund of Cornell until 1995.	FWS	will increase	19 years	Peregrine Fund of Cornell Univ.	35,000	39,000	41,000	43,000	45,000
2	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334. as available	Colo.DOW Mont.F&GD N.M.DG&F TexasP&WD Wyo.G&FD Utah DWR	$ 2,500 per site	4 sites 1 site 4 sites 4 sites 2 sites 1 site	State Wildlife Agency	10,000 2,500 10,000 10,000 5,000 2,500	10,000 2,500 10,000 10,000 5,000 2,500	10,000 2,500 10,000 10,000 5,000 2,500	-0- -0- -0- -0- -0- -0-	-0- -0- -0- -0- -0- -0-
	Total					40,000	40,000	40,000	-0-	-0-

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
2	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221, 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time. Year — No. of Young — No. of Sites 1 — 15 — 5 2 — 25 — 8 3 — 45 — 15 4 — 75 — 25 5 — 75 — 25 The number of sites are based upon an average of 3 young per site.	Agencies are to be selected as information becomes available through jobs 1111., 1112., 1113. and 1114.	$ 2,500 per site	See details of 321. etc.	State Conservation Agency	$ 12,500	20,000	37,500	62,500	62,500
2	411. Develop color brochures and posters	FWS			Fish and Wildlife Service	10,000	-0-	10,000	-0-	10,000
2	412. Develop audio visual materials for schools and conservation groups	FWS			FWS	5,000	5,000	-0-	-0-	-0-
2	413. Develop press release kits	FWS			FWS	15,000	10,000	5,000	5,000	5,000
5	414. Develop hunter posters	FWS			FWS	3,000	-0-	3,000	-0-	3,000
2	415. Develop public service ads for written media.	FWS			FWS	8,000	-0-	8,000	-0-	8,000

PROPOSED BUDGET -- SUMMARIZED BY JOB

Priority	Task	Agency	Cost/Unit	Unit	Coordinator	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	416. Develop and provide Audio-visual material for T.V.	FWS			Fish & Wildlife Service	20,000	-0-	20,000	-0-	20,000
1	417. Develop film on peregrine falcon.	FWS			"	25,000	25,000	-0-	-0-	-0-
4	421. Initiate Endangered Species Week.	FWS	1		"	2,000	-0-	-0-	-0-	-0-
1	422. Disseminate I & E materials.	Ariz.G&FD			All concerned agencies	1,000	1,000	1,000	1,000	1,000
		Colo.DOW				1,000	1,000	1,000	1,000	1,000
		Ida.F&GD				1,000	1,000	1,000	1,000	1,000
		KS FF&GC				500	500	500	500	500
		Mont.F&GD				1,000	1,000	1,000	1,000	1,000
		NB G&PC				500	500	500	500	500
		N.M.DG&F				1,000	1,000	1,000	1,000	1,000
		N.Da.G&FD				500	500	500	500	500
		OK.DWR				500	500	500	500	500
		S.Da.DGF&P				500	500	500	500	500
		TexasP&WD				1,000	1,000	1,000	1,000	1,000
		Utah DWR				1,000	1,000	1,000	1,000	1,000
		Wyo.G&FD				1,000	1,000	1,000	1,000	1,000
		FWS				6,000	6,000	6,000	6,000	6,000
		FS				5,500	5,500	5,500	5,500	5,500
		BLM				4,000	4,000	4,000	4,000	4,000
		NPS				4,500	4,500	4,500	4,500	4,500
	Total					30,500	30,500	30,500	30,500	30,500
8	423. Conduct public attitude survey	FWS			Fish and Wildlife Serv.	5,000	-0-	5,000	-0-	-0-
2	431. Conduct workshop for public agencies	FWS	$ 2,000	4	"	2,000	-0-	2,000	-0-	2,000
5	432. Develop and disseminate periodic newsletter.	FWS	1,500	4	"	1,500	1,500	1,500	1,500	1,500
	TOTAL FOR ALL JOBS					$505,200	$694,200	$799,200	$543,200	$478,200

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF ARIZONA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	2 sites	FS	$ 2,000	-0-	-0-	-0-	-0-
			1 site	NPS	1,000	-0-	-0-	-0-	-0-
					$ 3,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	6 sites	AG&FD	-0-	3,000	-0-	-0-	-0-
			2 sites	FWS	-0-	1,000	-0-	-0-	-0-
			7 sites	FS	-0-	3,500	-0-	-0-	-0-
			2 sites	BLM	-0-	1,000	-0-	-0-	-0-
			6 sites	NPS	-0-	3,000	-0-	-0-	-0-
					-0-	11,500	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			AG&FD	-0-	-0-	10,000	-0-	-0-
				FWS1/	-0-	10,000	10,000	-0-	-0-
				FS	-0-	10,000	10,000	10,000	-0-
				BLM	-0-	10,000	10,000	-0-	-0-
				NPS	-0-	10,000	10,000	-0-	-0-
						40,000	50,000	10,000	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231. and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		AG&FD	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,500	2,500	2,500	2,500	2,500
				BLM	1,500	1,500	1,500	1,500	1,500
				NPS	1,500	1,500	1,500	1,500	1,500
					9,000	9,000	9,000	9,000	9,000
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells collected in connection with Job 221.	$ 100 per sample	Up to 5 samps.	FWS	500	500	500	500	500
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	3 sites	AG&FD	1,500	1,500	1,500	1,500	1,500

1/ To survey military and Indian Reservations

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF ARIZONA (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 2 3 3 3 3	$ 2,500 per site	See Sec. 222 for details.	AG&FD	$ 5,000	7,500	7,500	7,500	7,500
2	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site			It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs 1111., 1112., 1114., and 212. Thus, no costs can be assigned at this time.				
1	422. Disseminate I & E materials			AG&FD	1,000	1,000	1,000	1,000	1,000
				FWS	500	500	500	500	500
				FS	500	500	500	500	500
				BLM	500	500	500	500	500
				NPS	500	500	500	500	500
					3,000	3,000	3,000	3,000	3,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF COLORADO

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111, 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	5 sites	CDOW	$ 5,000	-0-	-0-	-0-	-0-
			5 sites	FS	5,000	-0-	-0-	-0-	-0-
			2 sites	BLM	2,000	-0-	-0-	-0-	-0-
			3 sites	NPS	3,000	-0-	-0-	-0-	-0-
					15,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	2 sites	CDOW	-0-	1,000	-0-	-0-	-0-
			2 sites	FS	-0-	1,000	-0-	-0-	-0-
			1 site	NPS	-0-	500	-0-	-0-	-0-
					-0-	2,500	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			CDOW	-0-	-0-	10,000	10,000	-0-
				FS	-0-	10,000	20,000	10,000	-0-
				BLM	-0-	10,000	10,000	-0-	-0-
				NPS	-0-	10,000	10,000	10,000	-0-
					-0-	30,000	50,000	30,000	-0-
5	1121., 1122., 1123. & 1124. Initiate telemetry studies at one site in Colorado, Idaho and New Mexico. Estimated cost $25,000 per year for a 2-year study at each site.	$ 50,000 per study		FWS	25,000	25,000	-0-	-0-	-0-
1	121., 1221., 1223, 131, 132., 1331., 1332., 211., 231. and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		CDOW	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,500	2,500	2,500	2,500	2,500
				BLM	1,500	1,500	1,500	1,500	1,500
				NPS	1,500	1,500	1,500	1,500	1,500
					9,000	9,000	9,000	9,000	9,000
1	1222(a) Prevent human disturbance at 2 sites in Colo. Activity will be a cooperative effort between states and FWS	$ 5,000 per site	½ site	CDOW	2,500	2,500	2,500	2,500	2,500
			1½ sites	FWS	7,500	7,500	7,500	7,500	7,500
					10,000	10,000	10,000	10,000	10,000
	(b) Signing and administrative closures to eliminate disturbance.	$ 1,000 per site	2 sites	FS	2,000	500	500	500	500
		$250 main.	1 site	BLM	1,000	250	250	250	250
			3 sites	NPS	3,000	750	750	750	750
					6,000	1,500	1,500	1,500	1,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF COLORADO (Continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
7	123. Negotiate cooperative agreement with private landowner to protect one eyrie site in Colorado.	$ 250 per site	1 site	CDOW	250	-0-	-0-	-0-	-0-
7	124. Negotiate cooperative agreement for management of Colorado eyrie on city lands.	$ 250 per site	1 site	CDOW	-0-	250	-0-	-0-	-0-
2	212. Monitor contaminant levels by sampling pesticide levels in egg shells and prey species.								
	Collect prey sample	$ 250 per site	2 sites	CDOW	500	500	-0-	-0-	-0-
	Analyze egg samples	$ 100 per sample	Up to 5 samples	FWS	500	500	500	500	500
	Analyze prey samples	$ 2,000 per site	2 sites	FWS	4,000	4,000	-0-	-0-	-0-
					5,000	5,000	500	500	500
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	15 sites	CDOW	7,500	7,500	7,500	7,500	7,500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years. 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 2 4 7 7 7	$ 2,500 per site	See details in 222.	CDOW	5,000	10,000	17,500	17,500	17,500
6	223. Initiate and conduct research to enhance prey availability, 1 site in Colorado and 1 in New Mexico	$ 10,000 per site	1 site	FWS	10,000	10,000	10,000	10,000	10,000
3	233., 334. Participation and operate the Recovery Team to act as central location for compiling and disseminating information.		1 member	FWS	1,800	1,800	1,800	1,800	1,800
			1 member	FS	1,800	1,800	1,800	1,800	1,800
			1 member	BLM	1,800	1,800	1,800	1,800	1,800
			1 member	NPS	1,800	1,800	1,800	1,800	1,800
					7,200	7,200	7,200	7,200	7,200
1	311. Build facilities for 12 pair falcons at propagation facilities at Fort Collins being operated by Cornell University	$ 23,000	1 unit	FWS	23,000	-0-	-0-	-0-	-0-

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF COLORADO (Continued - pg. 3)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	312., 3134., 3141., 3142., 3131. and 3132. Maintain and operate propagation facility at Fort Collins in cooperation with Peregrine Fund of Cornell until 1995.	Will increase annually	19 years	FWS	35,000	39,000	41,000	43,000	45,000
1	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334. as available	$ 2,500 per site	4 sites	CDOW	10,000	10,000	10,000	-0-	-0-
2	321, 322., 331., 332., 3211, 3212., Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Tasks 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site			It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs 1111., 1112., 1114., and 212. Thus, no costs can be assigned at this time.				
1	411. Develop color brochures and posters			FWS	10,000	-0-	10,000	-0-	10,000
2	412. Develop audio visual materials for schools and conservation groups.			FWS	5,000	5,000	-0-	-0-	-0-
2	413. Develop press release kits			FWS	15,000	10,000	5,000	5,000	5,000
5	414. Develop hunter posters			FWS	3,000	-0-	3,000	-0-	3,000
2	415. Develop public service ads for written media.			FWS	8,000	-0-	8,000	-0-	8,000
1	416. Develop and provide audio visual material for T.V.			FWS	20,000	-0-	20,000	-0-	20,000
4	417. Develop film on peregrine falcon.			FWS	25,000	25,000	-0-	-0-	-0-
4	421. Initiate Endangered Species Week			FWS	2,000	-0-	-0-	-0-	-0-

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF COLORADO (Continued - pg. 4

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	422. Disseminate I & E materials			CDOW	1,000	1,000	1,000	1,000	1,000
				FWS	500	500	500	500	500
				FS	500	500	500	500	500
				BLM	500	500	500	500	500
				NPS	500	500	500	500	500
					3,000	3,000	3,000	3,000	3,000
8	423. Conduct public attitude survey			FWS	5,000	-0-	5,000	-0-	-0-
2	431. Conduct workshop for public agencies			FWS	2,000	-0-	2,000	-0-	2,000
4	432. Develop and disseminate periodic newsletter			FWS	1,500	1,500	1,500	1,500	1,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF IDAHO

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	2 sites	FS	2,000	-0-	-0-	-0-	-0-
			1 site	BLM	1,000	-0-	-0-	-0-	-0-
					3,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	5 sites	IF&GD	-0-	2,500	-0-	-0-	-0-
			4 sites	FS	-0-	2,000	-0-	-0-	-0-
			6 sites	BLM	-0-	3,000	-0-	-0-	-0-
					-0-	7,500	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			IF&GD	-0-	-0-	10,000	-0-	-0-
				FS	-0-	20,000	20,000	10,000	-0-
				BLM	-0-	10,000	10,000	10,000	-0-
					-0-	30,000	40,000	20,000	-0-
4	1121., 1122., 1123. & 1124. Initiate telemetry studies at one site in Colorado, Idaho and New Mexico. Estimated Cost $25,000 per year for a 2-year study at each site.	$ 50,000 per study		FWS.	-0-	-0-	-0-	25,000	25,000
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231. and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		IF&GD	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,500	2,500	2,500	2,500	2,500
				BLM	1,500	1,500	1,500	1,500	1,500
					7,500	7,500	7,500	7,500	7,500
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells and prey species.								
	Collect prey sample	$250 per site	1 site	IF&GD	250	250	-0-	-0-	-0-
	Analyze egg samples	$100 per sample	Up to 5 samples	FWS	500	500	500	500	500
	Analyze prey samples	$2,000 per	1 site	FWS	2,000	2,000	-0-	-0-	-0-
					2,750	2,750	500	500	500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF IDAHO (Continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 annual cost	3 sites	IF&GD	1,500	1,500	1,500	1,500	1,500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years. 1st yr. 1 · 2nd yr. 3 · 3rd yr. 3 · 4th yr. 3 · 5th yr. 3	$ 2,500 per site	See details in 222.	IF&GD	2,500	7,500	7,500	7,500	7,500
2	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per	The number of reintroduction sites and costs will be determined after they have been designated through Jobs 1111., 1112. 1113. and 1114.						
1	422. Disseminate I&E materials			IF&GD FWS FS BLM	1,000 500 500 500	1,000 500 500 500	1,000 500 500 500	1,000 500 500 500	1,000 500 500 500
					2,500	2,500	2,500	2,500	2,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF KANSAS

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	4 sites	KFF&GC	2,000	-0-	-0-	-0-	-0-
2	321, 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Part of cost may be borne by land management agencies as agreed upon by State agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site.		It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs. 1111., 1112., 1114., and 212. Thus, no costs can be assigned at this time.					
1	422. Disseminate I&E materials.			KFF&GC FWS	500 500	500 500	500 500	500 500	500 500
					1,000	1,000	1,000	1,000	1,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF MONTANA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	1 site	MF&GD	1,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	9 sites	MF&GD	-0-	4,500	-0-	-0-	-0-
			6 sites	FS	-0-	3,000	-0-	-0-	-0-
			4 sites	BLM	-0-	2,000	-0-	-0-	-0-
			2 sites	NPS	-0-	1,000	-0-	-0-	-0-
					-0-	10,500	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			MF&GD	-0-	-0-	10,000	-0-	-0-
				FS	-0-	20,000	20,000	-0-	-0-
				BLM	-0-	10,000	10,000	10,000	-0-
				NPS	-0-	10,000	10,000	-0-	-0-
					-0-	40,000	50,000	10,000	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231. 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		MF&GD	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,500	2,500	2,500	2,500	2,500
				BLM	1,500	1,500	1,500	1,500	1,500
				NPS	1,500	1,500	1,500	1,500	1,500
					9,000	9,000	9,000	9,000	9,000
3	212. Monitor contaminant levels by sampling pesticide levels in eggs and shells collected in connection with Job 221.	$ 100 per sample	Up to 2 samples	FWS	200	200	200	200	200
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	1 site	MF&GD	500	500	500	500	500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 1 1 1 1 1	$ 2,500	1 site	MF&GD	2,500	2,500	2,500	2,500	2,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF MONTANA (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
2	3133. Increase captive breeding stock through 31331, 31332., 31333., 31334 as available.	$ 2,500 per site	1 site	MF&GD	2,500	2,500	2,500	-0-	-0-
2	321., 322., 331., 332., 3211, 3212., Augment population with captive produced young utilizing techniques 3221, 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site		It is anticipated and recommended that approximately 3 captive-produced young can be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs, 1111., 1112., 1114., and 212. Thus, no costs can be assigned at this time.					
1	422. Disseminate I&E materials.			MF&GD FWS FS BLM NPS	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500
					3,000	3,000	3,000	3,000	3,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF NEBRASKA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	2 sites	NG&PC	-0-	1,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			NG&PC	-0-	5,000	-0-	-0-	-0-
4	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231., 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost estimated.	$ 500 per site		NG&PC	500	500	500	500	500
3	321., 322., 331., 332., 3211., 3212. Augment population with captive produced young utilizing techniques 3221, 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs 1111., 1112., 1114. and 1212.) Thus, no costs can be assigned at this time.						
1	422. Disseminate I&E materials			NG&PC FWS FS	500 500 500	500 500 500	500 500 500	500 500 500	500 500 500
					1,500	1,500	1,500	1,500	1,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF NEW MEXICO

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112, and 11113 outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	3 sites	NMDF&G	3,000	-0-	-0-	-0-	-0-
			4 sites	FS	4,000	-0-	-0-	-0-	-0-
			1 site	NPS	1,000	-0-	-0-	-0-	-0-
					8,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	3 sites	NMDF&G	-0-	1,500	-0-	-0-	-0-
			4 sites	FS	-0-	2,000	-0-	-0-	-0-
			3 sites	BLM	-0-	1,500	-0-	-0-	-0-
			2 sites	NPS	-0-	1,000	-0-	-0-	-0-
					-0-	6,000	-0-	-0-	-0-
2	1113 and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			NMDF&G	-0-	-0-	10,000	-0-	-0-
				FWS	-0-	20,000	20,000	10,000	-0-
				FS	-0-	20,000	30,000	30,000	-0-
				BLM	-0-	-0-	10,000	-0-	-0-
				NPS	-0-	10,000	10,000	-0-	-0-
					-0-	50,000	80,000	40,000	-0-
4	1121., 1122., 1123. & 1124. Initiate telemetry studies at one site in Colorado, Idaho and New Mexico. Estimated cost $25,000 per year for a 2-year study at each site.	$50,000 per study		FWS	-0-	-0-	25,000	25,000	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231, and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		NMDF&G	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,500	2,500	2,500	2,500	2,500
				BLM	1,500	1,500	1,500	1,500	1,500
				NPS	1,500	1,500	1,500	1,500	1,500
					9,000	9,000	9,000	9,000	9,000
1	1222.a) Prevent human disturbance at 2 sites in Mexico. Activity will be a cooperative effort between state and FWS.	$ 5,000 per site	½ site	NMDF&G	2,500	2,500	2,500	2,500	2,500
			1½ sites	FWS	7,500	7,500	7,500	7,500	7,500
					10,000	10,000	10,000	10,000	10,000
	b) Signing and administrative closures to eliminate disturbance	$ 1,000 per site $250 mainten.	2 sites	FS	2,000	500	500	500	500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF NEW MEXICO (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells and prey species.								
	Collect prey sample	$ 250 per site	2 sites	NMDF&G	500	500	-0-	-0-	-0-
	Analyze egg samples	$ 100 per sample	Up to 5 samples	FWS	500	500	500	500	500
	Analyze prey samples	$ 2,000 per site	2 sites	FWS	4,000	4,000	-0-	-0-	-0-
					5,000	5,000	500	500	500
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	8 sites	NMDF&G	4,000	4,000	4,000	4,000	4,000
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 2 6 8 8 8	$2,500 per site	See details in 222.	NMDF&G	5,000	15,000	20,000	20,000	20,000
5	223. Initiate and conduct research to enhance prey availability, 1 site in Colo. and 1 in New Mexico.	$10,000 per site	1 site	FWS	10,000	10,000	10,000	10,000	10,000
1	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334 as available.	$ 2,500 per site	4 sites	NMDF&G	10,000	10,000	10,000	-0-	-0-
2	321., 322., 331., 332., 3211 3212. Augment population with captive produced young utilizing techniques 3221, 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	It is anticipated and recommended that approximately 3 captive produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs 1111., 1112., 1114., and 212.) Thus, no costs can be assigned at this time.						
1	422. Disseminate I&E materials.			NMDF&G FWS FS BLM NPS	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500
					3,000	3,000	3,000	3,000	3,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF NORTH DAKOTA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per	1 site	NDG&FD	1,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per	6 sites	NDG&FD	-0-	3,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			NDG&FD	?	?	?	?	?
1	121., 1221, 1223., 131., 132., 1331., 1332., 211., 231. and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		NDG&FD FWS	500 500 1,000	500 500 1,000	500 500 1,000	500 500 1,000	500 500 1,000
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells collected in connection with Job. 221.	$100 per sample	Up to 2 samples	FWS	200	200	200	200	200
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$500 per site	1 site	NDG&FD	500	500	500	500	500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 1 1 1 1 1	$2,500 per site	1 site	NDG&FD	2,500	2,500	2,500	2,500	2,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF NORTH DAKOTA (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
2	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211 and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per		It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs. 1111., 1112., 1114., and 212. Thus, no costs can be assigned at this time.					
1	422. Disseminate I&E materials			NDG&FD FWS	500 500	500 500	500 500	500 500	500 500
					1,000	1,000	1,000	1,000	1,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF OKLAHOMA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	422. Disseminate I&E materials			ODWC	500	500	500	500	500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF SOUTH DAKOTA

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas.	$ 500 per site	2 sites	SDDGF&P	-0-	500	-0-	-0-	-0-
				FS	-0-	500	-0-	-0-	-0-
					-0-	1,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			SDDGF&P	-0-	-0-	5,000	-0-	-0-
				FS	-0-	-0-	5,000	-0-	-0-
					-0-	-0-	10,000	-0-	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231 and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		SDDGF&P	500	500	500	500	500
				FWS	500	500	500	500	500
				FS	500	500	500	500	500
					1,500	1,500	1,500	1,500	1,500
3	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211. and 3212. be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113., and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	It is anticipated and recommended that approximately 3 captive produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs 1111., 1112., 1114., and 212). Thus, no costs can be assigned at this time.						
1	422. Disseminate I&E materials.			SDDGF&P	500	500	500	500	500
				FWS	500	500	500	500	500
				FS	500	500	500	500	500
					1,500	1,500	1,500	1,500	1,500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF TEXAS

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	5 sites	NPS	5,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	4 sites	TP&WD	-0-	2,000	-0-	-0-	-0-
			4 sites	NPS	-0-	2,000	-0-	-0-	-0-
					-0-	4,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			TP&WD	-0-	10,000	10,000	-0-	-0-
				NPS	-0-	-0-	10,000	10,000	-0-
					-0-	10,000	20,000	10,000	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		TP&WD	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				NPS	2,000	2,000	2,000	2,000	2,000
					5,500	5,500	5,500	5,500	5,500
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells and prey species.								
	Collect prey sample	$ 250 per site	2 sites	TP&WD	500	500	-0-	-0-	-0-
	Analyze egg samples	$ 100 per sample	Up to 5 sample	FWS	500	500	500	500	500
	Analyze prey samples	$ 2,000 per site	2 sites	FWS	4,000	4,000	-0-	-0-	-0-
					5,000	5,000	500	500	500

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF TEXAS (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	5 sites	TP&WD	2,500	2,500	2,500	2,500	2,500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 2 5 5 5 5	$ 2,500 per site	See detail in 222.	TP&WD	5,000	12,500	12,500	12,500	12,500
3	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334 as available.	$ 2,500 per site	4 sites	TP&WD	10,000	10,000	10,000	-0-	-0-
2	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221. and 3222. require Task 3211 and 3212 be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113. and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	tive ered mined no	It is anticipated and recommended that approximately 3 cap- produced young be placed at a site. Sites will be consid- for reintroduction only after said sites have been deter- to be suitable (Jobs 1111., 1112., 1114., and 212. Thus, costs can be assigned at this time.					
1	422. Disseminate I&E materials.			TP&WD FWS FS NPS	1,000 500 500 1,000	1,000 500 500 1,000	1,000 500 500 1,000	1,000 500 500 1,000	1,000 500 500 1,000
					3,000	3,000	3,000	3,000	3,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF UTAH

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	1 site	NPS	1,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	10 sites	UDOWR	-0-	5,000	-0-	-0-	-0-
			20 sites	FS	-0-	10,000	-0-	-0-	-0-
			5 sites	BLM	-0-	2,500	-0-	-0-	-0-
			5 sites	NPS	-0-	2,500	-0-	-0-	-0-
					-0-	20,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			FS	-0-	10,000	10,000	-0-	-0-
				BLM	-0-	-0-	10,000	-0-	-0-
				NPS	-0-	10,000	10,000	-0-	-0-
					-0-	20,000	30,000	-0-	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231 and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		UDOWR	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	2,000	2,000	2,000	2,000	2,000
				BLM	2,000	2,000	2,000	2,000	2,000
				NPS	1,500	1,500	1,500	1,500	1,500
					9,000	9,000	9,000	9,000	9,000
1	1222. Prevent human disturbance at 1 site in Utah. NPS will assume entire job for one site in Utah.	$ 5,000 per site		NPS	5,000	5,000	5,000	5,000	5,000
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells collected in connection with 221.	$ 100 per sample	Up to 2 samples	FWS	200	200	200	200	200

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF UTAH (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual costs may increase or decrease in proportion to the number of active sites.	$ 500 per site	1 site	UDOWR	500	500	500	500	500
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 1 1 1 1 1	$ 2,500 per site	1 site	UDOWR	2,500	2,500	2,500	2,500	2,500
3	233, 334. Participation and operate the Recovery Team to act as central location for compiling and disseminating information.		Team Expenses	FWS	4,000	4,000	4,000	4,000	4,000
1	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334. as available	$ 2,500 per site	1 site	UDOWR	2,500	2,500	2,500	-0-	-0-
3	321., 322., 331., 332., 3211, 3212. Augment population with captive produced young utilizing techniques 3221., 3222., 3223. Techniques 3221.. and 3222. require Task 3211. and 3212 be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs 1111., 1112., 1113., and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs. 1111., 1112., 1114., and 212). Thus, no costs can be assigned at this time.						
1	422. Disseminate I&E materials.			UDOWR FWS FS BLM NPS	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500	1,000 500 500 500 500
					3,000	3,000	3,000	3,000	3,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF WYOMING

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	1111. Analyze and monitor presently used nesting locations and the surrounding area. (Sites which were active within the past 3 years should be included.) Tasks 11111 11112., and 11113. outline the job to be accomplished. Estimated cost per unit is based on doing entire job.	$ 1,000 per site	1 site	WG&FD	1,000	-0-	-0-	-0-	-0-
			1 site	FS	1,000	-0-	-0-	-0-	-0-
					2,000	-0-	-0-	-0-	-0-
2	1112. Determine, analyze and monitor regions formerly used by breeding peregrines and identify presently favorable areas. Analysis to be based upon data obtained in Task 1111.	$ 500 per site	1 site	WG&FD	-0-	500	-0-	-0-	-0-
			2 sites	FS	-0-	1,000	-0-	-0-	-0-
			1 site	BLM	-0-	500	-0-	-0-	-0-
			2 sites	NPS	-0-	1,000	-0-	-0-	-0-
					-0-	3,000	-0-	-0-	-0-
2	1113. and 1114. Survey potential habitat to locate previously unknown eyries and evaluate potential sites. Both jobs can be accomplished concurrently. Estimated cost for two people for 5 months per year is $10,000.			FWS (Indian Lands)	-0-	-0-	10,000	-0-	-0-
				FS	-0-	10,000	10,000	-0-	-0-
				BLM	-0-	-0-	10,000	-0-	-0-
				NPS	-0-	-0-	10,000	-0-	-0-
					-0-	10,000	40,000	-0-	-0-
1	121., 1221., 1223., 131., 132., 1331., 1332., 211., 231. and 232., 333. Provide general protection to the peregrine and its habitat and provide annual observation at selected eyrie sites. Annual cost is estimated.	Annual Cost		WG&FD	2,500	2,500	2,500	2,500	2,500
				FWS	1,000	1,000	1,000	1,000	1,000
				FS	1,000	1,000	1,000	1,000	1,000
				BLM	1,000	1,000	1,000	1,000	1,000
				NPS	500	500	500	500	500
					6,000	6,000	6,000	6,000	6,000
3	212. Monitor contaminant levels by sampling pesticide levels in egg shells collected in connection with Job 221.	$ 100 per sample	4 Samples	FWS	400	400	400	400	400
1	221. Determine occupancy and production at eyrie sites that were active within the past three years. Annual cost may increase or decrease in proportion to the number of active sites.	$ 500 per site	2 sites	WG&FD	1,000	1,000	1,000	1,000	1,000
2	222. Manipulate clutches on an annual basis. Number of sites to be manipulated in the first five years: 1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr. 1 2 2 2 2	$ 2,500 per site	See 222 for details	WG&FD	2,500	5,000	5,000	5,000	5,000

PROPOSED BUDGET -- SUMMARIZED BY STATE

STATE OF WYOMING (continued - pg. 2)

Priority	Task	Cost/Unit	Units	Agency	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
1	3133. Increase captive breeding stock through 31331., 31332., 31333., 31334. as available	$ 2,500 per site	2 sites	WG&FD	5,000	5,000	5,000	-0-	-0-
3	321., 322., 331, 332., 3211, 3212. Augment population wit captive produced young utilizing techniques 3221, 3222. 3223. Techniques 3221. and 3222. require Task 3211. and 3212 be completed. Cost will be borne by the Fish and Wildlife Service, state agencies and land management agencies. Potential reintroduction sites will be selected from areas designated through Jobs. 1111., 1112., 1113., and 1114. Therefore, reintroduction areas cannot be provided by state at this time.	$ 2,500 per site	It is anticipated and recommended that approximately 3 captive-produced young be placed at a site. Sites will be considered for reintroduction only after said sites have been determined to be suitable (Jobs. 1111., 1112., 1114., and 212). Thus, no costs can be assigned at this time.						
1	422. Disseminate I&E materials.			WG&FD	1,000	1,000	1,000	1,000	1,000
				FWS	500	500	500	500	500
				FS	500	500	500	500	500
				BLM	500	500	500	500	500
				NPS	500	500	500	500	500
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Appendix A

HABITAT REQUIREMENTS OF THE AMERICAN PEREGRINE FALCON

Introduction

High mobility, extensive hunting areas, remote, rugged nest sites and preferences of individual pairs of peregrine falcons are all factors which make it extremely difficult to stereotype and classify typical peregrine falcon habitats. Further, a lack of detailed knowledge of all habitat requirements necessitates that certain aspects be discussed in general terms at this time. Therefore, the guidelines listed below are recommended as standards governing essential habitat. In practice, historic, occupied and potential sites should be visited individually by a raptor biologist who is knowledgeable about peregrines, and essential habitat established for each site.

I. Reproduction Habitat

A. Occupied and/or Suitable Historic Nesting Areas

1. Nesting Habitat

a. Description

: A cliff or series of cliffs, generally 200 to 300 feet in height (range of 40 to 2100 feet), that tends to dominate the surrounding landscape. Mountain valleys and river gorges with precipitous cliffs also are preferred nest sites.

: Nesting sites (eyries) are usually located below 9,500 feet elevation (known extreme to date is 10,500 feet).

: An adequate food source (primarily small to medium sized terrestrial birds, shorebirds and waterfowl) is normally found within ten miles of the nesting cliff (known extreme is 17 miles).

: Nesting sites should be examined annually, since peregrines may utilize alternate nesting cliffs from one year to another.

b. Required Protective Measures

: Prohibit land-use practices and/or development that will adversely alter or eliminate existing habitat within one mile distance of the nesting cliff(s).

: Prohibit all human activities within one-half mile distance of the nesting cliff between 1 February and 1 September of each year. Those research and/or management activities that are necessary for adequate protection and recovery of the peregrine or protection and maintenance of the habitat should be allowed when closely supervised by the responsible agency.

: Retain suitable nesting habitats in public ownership.

2. Hunting Habitat

a. Description

: Those areas within ten miles of the nesting cliff(s) which supply the major portion of the food source (primarily birds) to the peregrine falcon. Other habitats within ten to twenty miles of the nesting cliff(s) also may be important hunting areas, but they are often so interspersed or widespread that it is difficult to specifically delineate them. This does not imply that all lands within ten miles of an eyrie site are to be considered essential habitat.

: Examples of important hunting areas are wetlands and riparian habitats; meadows and parklands; croplands such as hayfields, grainfields and orchards; and areas such as gorges, mountain valleys and lakes over which prey are vulnerable.

b. Required Protective Measures

: Prohibit land-use practices and/or developments which could alter or eliminate the character of the hunting habitat or food source.

: Prohibit the use of harmful pesticides and other detrimental environmental pollutants which would accumulate in the peregrine or its food source.

B. Sites Suitable for Occupancy and/or Expansion by the Peregrine[1/]

1. Description

: Sites (other than those occupied or historic sites listed above) which exhibit the requirements or needs of the peregrine as described in Section A above.

2. Required Protective Measures

: Once identified, these sites should be protected and managed accordingly to insure that the quality of the habitat is not altered or eliminated.

II. Migration and/or Wintering Habitat

A. Wildlife (waterfowl) Refuges or other habitats which concentrate food sources.

B. As more becomes known about important wintering and migration areas, additional guidelines will be developed.

[1/] Due to human encroachment and extensive habitat manipulation, many of the historic peregrine nesting areas have either been eliminated or altered significantly so as to make them unsuitable for nesting. As a result, new sites suitable for occupancy by peregrines must be identified and maintained as early as feasible in order to effect the recovery of the species. The existing propagation programs will be able to provide peregrines of the anatum subspecies for reintroduction into suitable habitats in the near future.

Listed below are persons who may be able to provide details of peregrine falcon habitat in specific areas:

Arizona - Dr. David Ellis, U. S. Fish and Wildlife Service, Room B-3, 301 W. Congress St., Tucson, Ariz. 85701

Colorado - Dr. James H. Enderson, Department of Biology, Colorado College, Colorado Springs, Colorado 80903

Gerald R. Craig, Colorado Division of Wildlife, 6060 Broadway, Denver, Colorado 80216

William Burnham, 1424 N.E. Frontage Road, Fort Collins, Colorado 80521

Idaho - Morlan W. Nelson, Tundra Films, 73 East Way, Boise, Idaho 83702

Kansas - No nesting peregrines have been reported in this state, however Bill Hlavachick, Kansas Forestry, Fish and Game Commission, Box 1028, Pratt, Kansas 67124, should be contacted relative to important areas utilized by peregrines on migration and through the winter.

Montana - Jay Sumner, University of Montana, Montana Coop. Wildlife Research Unit, U. S. Fish and Wildlife Service, Missoula, Montana 59801.

Morlan W. Nelson, Tundra Films, 73 East Way, Boise, Idaho 83702

Nebraska - No nesting peregrines have been reported in this state, however, Ross Locke, Nongame Supervisor for the Nebraska Game and Parks Commission, Box 30370, Lincoln, Nebraska 68503 should be contacted relative to important areas utilized by peregrines on migration and through the winter.

New Mexico - Frank M. Bond, 540 Camino Rancheros, Santa Fe, New Mexico 87501

Tom Smylie, U. S. Fish and Wildlife Service, P. O. Box 1306, Albuquerque, New Mexico 87103

Dr. James H. Enderson, Department of Biology, Colorado College, Colorado Springs, Colorado 80903

North Dakota - No nesting peregrines have been reported in this state, however James Grier, Zoological Department, North Dakota State University, Fargo, North Dakota 58102 or Stan Kohn, Nongame Biologist, North Dakota Game and Fish Department, Bismarck, North Dakota 58505 could be contacted relative to important areas utilized by peregrines on migration and through the winter.

Oklahoma - No nesting peregrines have been reported in the state, however Mike Brewer of Pauls Valley, Oklahoma (Phone 405-238-6358) should be contacted relative to important areas utilized by peregrines on migration and through the winter.

List of persons who may be able to provide details on peregrine habitat
(Cont'd - page 2)

South Dakota - No nesting peregrines have been reported in the state, however, Jerry Lounsberry of the South Dakota Game, Fish and Parks Department, State Office Building, Pierre, South Dakota 57501 or

Donald V. Hunter, Jr., Centerville, South Dakota 57014 should be contacted relative to important areas utilized by peregrines on migration and through the winter.

Texas - Dr. Grainger Hunt, 800 North Bird Street, Alpine, Texas 79830

John Smith, Texas Parks and Wildlife Department, John H. Reagan Building, Austin, Texas 78701

Utah - Dr. Richard D. Porter, Section of Wildlife Ecology on Public Lands, U. S. Fish and Wildlife Service, Shrub Science Laboratory, 735 North 500 East, Provo, Utah 84601.

Utah Division of Wildlife Resources, 1596 West North Temple, Salt Lake City, Utah 84116

Dr. Clayton White, 161 WIDB, Zoology Department, Brigham Young University, Provo, Utah 84602

Wyoming - Dr. James H. Enderson, Department of Biology, Colorado College, Colorado Springs, Colorado 80903

Appendix B

SURVEY PROCEDURES FOR LOCATING NESTING PEREGRINE FALCONS AND LOCATING SUITABLE HABITAT

This material is intended as a guide for those state and federal field personnel interested in determining the presence of nesting peregrine falcons on lands under their jurisdiction. Although the species nests in a variety of cliff-situations, there are patterns in their behavior that make it possible to outline techniques which will maximize success in locating them. Hopefully, the generalities listed here will acquaint the wildlife manager sufficiently with the field techniques required to locate peregrines so he will be capable of designing and budgeting a peregrine survey should it become necessary. Included in this text is a list of people who have field experience with the peregrine and who are knowledgeable of their habits. They have indicated a willingness to assist in completing surveys within their locale. Anyone inexperienced in surveying for peregrine falcons can obtain considerable assistance by contacting any of these individuals. They should be able to provide the names of competent observers experienced in field work involving peregrine falcons who may be hired to undertake the survey.

Cliff: The most frequently used nesting cliffs generally exceed 100 feet in height, are often at the top of a high talus slope and have ledges or caves with gravel or soil in which a depression can be scraped for eggs. Cliffs with at least some southern exposure are preferred in the northern part of the region, but near the Mexican border north-facing cliffs may be used. Generally, the higher the cliff in relation to adjacent lands, the better.

Habitat: The vast majority of the peregrine eyries in the Rocky Mountain/Southwest Region are within one mile of a stream or river. Such situations often provide lowlands rich in bird life and open areas over which to hunt. The walls of canyons and gorges are often used for nest sites. A few sites have been found away from major stream courses, but generally these have been associated with extensive oak brushland, pinyon-juniper woodland, or mixed coniferous forest. In the central part of the region there are very few records of peregrines nesting above 9500 feet.

In Colorado, peregrines appear to reside at the nesting cliff from March to October, but little, good information is available about wintering habitat. Cliffs should be searched systematically during those months, especially during May and June when the birds are normally nesting. Eggs can be expected in April or May and young from May to July. Incubating birds are hard to find; while one adult incubates, the other often perches quietly on the cliff nearby or hunts.

Often one can determine if a cliff has peregrines by looking for "white wash" excrement on the cliffs. Usually a few marks, up to six feet long, can be found extending down from favorite perches, usually under an overhang. A spotting scope often makes it possible to see single marks not under favorite perches, the presence of which is usually a sign the cliff is occupied by falcons, either prairie or peregrines. Falcon droppings are not splashed outward on the cliff as are eagle and buteo hawk excrement, but run vertically downwards producing long streaks. To determine if peregrines are present, ordinarily the first approach is to examine a cliff for whitewash. This can best be done with the aid of strong binoculars and a spotting scope. When possible, the top of the cliff should be walked, and occasionally a rock can be pushed over the ledge to flush a hidden bird. Even if the cliff is walked, at least five hours should be spent watching for birds before one concludes none is present. Better yet, return to the cliff another day or two, and search it thoroughly for birds. As a last resort, a firearm may be discharged at the cliff, which may cause a previously unobserved falcon to flush.

Other Raptors: A number of other birds of prey may be found nesting upon cliffs which appear suitable for occupancy by peregrines. Prairie falcons are most likely to be mistaken for peregrine falcons because of their similar size, shape and flight characteristics. They also will use nesting ledges and potholes similar to those preferred by peregrines. In addition, golden eagles will regularly construct their large, bulky stick nests on cliff ledges. Red-tailed hawks and, to a lesser extent, ferruginous hawks (depending upon the region) also will build stick nests upon ledges and in potholes. Vultures and ravens are not uncommon cliff site residents.

Should another raptor, especially a golden eagle, be seen flying in the vicinity of a potential peregrine eyrie, the raptor should be kept in sight since a peregrine will often attempt to drive away such intruders. Vultures and ravens may or may not elicit a response from nesting peregrines.

Precautions: If adults spend long periods on the ledge, eggs or young are probably present. Avoid the sudden flushing of incubating or brooding birds. Do not disturb the birds and keep them off the ledge for more than about 20 minutes if the temperature is below 60-65° F, especially if a wind is blowing. However, after 1 June, the young are usually big enough so that they will not chill.

Minimize disturbance at the cliff, especially during egg-laying in April, by relying on a spotting scope for observation.

General: Peregrines may be distinguished from prairie falcons by their nearly black heads, slate or dark brown backs and the uniformity of their color when seen from below. The underside of the wings of prairie falcons are dark near the body and they never have dark heads. Both species are aggressive in defense of the nesting cliff and their calls are similar.

Habitat Surveys: In determining suitability and mapping of habitat of peregrine falcons, considerable preliminary work may be accomplished utilizing aerial photos and topographic maps. Aerial photos can be studied, and cliffs meeting the previous description or those that appear to be suitable can be identified and located on maps. The area within 15 miles of the cliff should be scrutinized for areas providing suitable hunting habitat.

Nesting Habitat: If a cliff and surrounding habitat appear to be suitable, the cliff should be visited on-the-ground to determine its actual characteristics and suitability. In order to evaluate the cliffs and determine priority for reintroduction of the peregrine or future surveys for peregrine nests, the following characteristics should be noted: altitude, height of cliff above surrounding terrain, length of cliff, direction the cliff faces, geological composition of cliff, presence and location of potholes or ledges suitable for nesting, presence of whitewash and presence of other raptor nests. If the cliff appears desirable, photos of a complete circle around the cliff will show relationships of hunting habitat and disturbance factors. A photo of the face of the cliff can be used to show location of possible nesting sites.

Hunting habitat: If a cliff appears desirable, the area within 15 miles of the cliff should be surveyed to determine suitability and surrounding land uses. Vegetation should be identified by forest type (such as ponderosa pine, lodgepole or aspen, etc.), wet meadow, open grasslands, brushlands, lakes, and rivers. Large deep canyons should be delineated and may overlap vegetation types as they provide an important source of open air space and serve as important hunting

Designation of vegetation types provides the basis for determining areas capable of supplying food sources. Densities and composition of likely prey items should be determined for all types except forest-covered areas.

Disturbance Factors: Disturbance factors (such as roads, habitation, recreation use, mineral developments, etc.) both present and potential should be shown on the map. All activities within one mile of the cliff should be identified while only changes from natural conditions and other land uses which might modify the hunting areas should be mapped for the entire areas surrounding the nest site.

PEREGRINE EYRIE EVALUATION DATA

SITE IDENTIFICATION State____________________

1. Site Name______________________ 2. Date(s) Visited______________

3. Legal Description: T__________N/S R__________ Section__________

Latitude____________ Longitude________________

4. Name, Distance, Direction to Nearest Town__________________

5. Land Ownership__________________(Attach slide or other photo, and section of topographic map)

PHYSICAL & BIOLOGICAL SITUATION

6. Cliff Material (sandstone, granite, etc.)__________________

7. Direction Cliff Faces and Direction of Ledge__________, __________

8. Height of Vertical Face (ft.)________ 9. Height of Cliff Above Lowlands________

10. Length of Cliff______________ 11. Elevation Above Sea Level__________

12. Number of Potential Ledges__________

13. Whitewash: None, Inconspicuous, Obvious

14. Major Vegetation (dominant species) Around Cliff__________________

15. Major Vegetation of Nearest Lowlands__________________

16. Permanent Water: Lakes (name and distance)__________________

Stream (name and distance)__________________

17. Potential Prey Species Seen__________________

OBSERVATIONS

18. Site Use by Peregrines: Rumored, Historical, Presently Active, Potential

19. Peregrines Seen: Male, Female, Adult Pair, Immature

20. Years Used by Peregrines (known, suspected)____ ____ ____ ____ ____ ____ ____

21. Pair Defense, Incubation, or Feeding Young (and year)__________________

22. *No. Eggs__________ *No. Downy Young________ No. Flying Young__________

IMPACT

23. Other Nesting Raptors and Proximity__________________

24. Detrimental Human Activities__________________

25. Human Access to Top/Bottom of Cliff__________________

26. Name and Address of Respondent__________________

____

* Information for these items may be gathered only through Endangered Species Permit and by qualified personnel.

Appendix C

This has been submitted to the Recovery Team as an example of an extensive Information-Education Program.

Peregrine Recovery

A Plan for Implementation and Management of Public Information

Jim and Stellanie Ure
Salt Lake City, Utah

Introduction

This outline proposes the formation of a public information unit to prepare and implement a national program to create agency, legislative and public support of Peregrine Recovery Team efforts. We propose to call this unit "PRSC"--Peregrine Recovery Staff Consultants, since the program calls for our function in a staff position.

PRSC would operate on a non-aligned basis, presumably responsible to an advisory or directors'board. PRSC would make recommendations based on media/marketing/communications techniques that have proved effective in creating awareness and generating support.

We present here the options for consideration by Peregrine Recovery Teams.

An information and education program can be planned and executed for any amount; what we propose will be a simple but effective first-year program considering time deadlines.

Goals

People management has become one of the most important elements of peregrine recovery efforts. People management should be fully 50 percent of your thrust.

Using marketing/media/communications techniques, we propose a tightly coordinated program to shape agency and public opinion favorable to the efforts of the Peregrine Recovery Teams.

The prime goal for all is to reestablish anatum populations. But to achieve this requires subgoals, including:

1. Generation of more dollars for peregrine recovery efforts.
2. Generation of public demand and support for peregrine recovery efforts.

There are other problems that a communications program can help solve, including elimination and discouragement of use of DDT and Dieldrin; it can increase prey availability by influencing farmers and others to plant suitable cover crops; it can educate in the schools, reaching children before negative opinions are developed toward hawks in general; it can reduce human activities in areas of nesting and feeding; it can create a degree of protection against thoughtless shooting or destruction of nests.

Properly planned and executed, it will leave an indelible mark on the public.

Treatment/Theme

Thematic treatment for the entire program must be developed.

It must create interest and excitement.

It must instruct and inform.

It can move people to take action.

The delicate problem that must be addressed in the creation of this theme is to avoid creating a demand by the public to possess or fly birds of prey.

And because the public seems to be largely ignorant of life histories of birds of prey and the differences that distinguish them, raptor preservation in general must be part of the theme.

We will create a theme, a graphics approach, a logotype that offers an easily identifiable and meaningful expression. Both copy and art will be adaptable for all media, from skywriting to television.

This will be done after extensive interviews with Recovery Team members.

Special Media Events

News can be made. You do not have to wait until it happens. One good suggestion is the endangered species week declaration by the President. The Peregrine Teams should develop a complete, detailed package for such a program. It stands a chance of good success if we answer all questions in advance, then run it through political channels. The program would be designed to use the peregrine as the symbol of all endangered species.

All public agencies would use this symbol when dealing in programs or publications on endangered species. That way, even wolf programs display the peregrine symbol--and peregrine recovery is an indirect beneficiary.

The peregrine lends itself beautifully to becoming the symbol of America's endangered species; unlike some of the other endangered species, it is--thanks to that wonderful moustache and falcon's beak--unmistakable.

We should also consider using a public personality as a spokesman or a woman for TV and radio public service spots.

A media event with considerable national and international reach can be arranged whereby the President becomes a witness to the release of a captive-bred peregrine, with suitable sidebar statements coming from the team. And if Canada shares in this program, the Prime Minister's presence would give the event truly international scope.

Special media events also include arranging for TV and radio specials, motion picture assistance, creation of concepts the media will use.

Agency Program

Public agencies in many cases are unaware of the peregrine recovery effort. In some cases they operate in gray areas where an agency role is not clearly defined vis a vis the peregrine.

PRSC's job will be to pull these disparate elements together and present definitive programs that agencies can use for guidance. We also propose to supply materials to support the peregrine recovery effort.

The immediate goal is to simply inform the public agencies of the goals and activities for peregrine recovery and urge they clarify their own roles in the project.

The steps for informing and involving all government, academic and private institutions with an interest:

1. Determine who needs to be involved.
2. Sponsor and host either one central meeting, to which representatives are invited, or a series of regular regional meetings (making attendance and involvement easier for more persons).
3. Printed materials to be prepared for agency use include:
    a. A definitive handsome four-color folder on the peregrine, including a guide to identification of the three North American subspecies and information on how the recovery effort is proceeding. Also included should be information and identification pages on all North American raptors.
    b. An audio/visual presentation showing various aspects of the program.
    c. A big full-color poster showing all raptors. This will be hung in agency offices everywhere.
    d. Press releases that can be localized.
    e. TV and radio scripts, public service ad copy, with directions for use.
    f. Photos and slides of peregrines and team activities.
    g. A press kit cover, in which all of the above items are placed. These are passed out to those in attendance. They double as kits to give the working press.

The workshops should also include:

1. Simple, inexpensive one-color signs that agencies can use to post in hunting areas urging that hunters do not shoot at any hawks. Hunters, like wildfowl, have become more concentrated. Small signs posted regularly are read and are effective. A leaflet should also be available to hunters at checking stations. The two will be combined--poster on one side, information on the other.
2. Present a media short course at the workshop. This will explain how to get the most publicity on the recovery effort. It will present updated information on use of media by the private sector and will provide a local tie-in in every state and town. Tricks of the trade, if you will. This will be useful to agencies in areas other than the peregrine effort.
3. "How to Develop a Raptor Short Course for Public Schools." This should be part of the program. Those in attendance can adapt the programs for local use. We can offer script and slides or film strip to them at cost.
4. Present national communications/information plans. Urge tie-in programs timed to coincide.
5. Distribution of order forms so local agencies can purchase additional materials at cost. All materials can be designed for overprinting or tagging by the agency distributing them.

The materials developed for these workshops should also be sent to: ornithological societies, conservation organizations, local and national bird and falconry clubs, and hunting and fishing organizations.

A newsletter format will be designed and mailing lists compiled. The newsletter should go out at least nine times a year, more frequently as activity, reporting, and involvement become apparent. It should contain news of the Peregrine effort; it also must contain human interest features, highlights, sidebars and personalities. This insures broader readership. An inexpensive format is suggested. Newsletters should be self-mailing.

Public Communication/Public Service Messages

Ideally, a program of this scope should include a pre-campaign attitude survey of the public relative to peregrines and raptors in general. (Is the old adage still true? Big chicken hawks and little chicken hawks.) We should then design the theme and, after the program has been operable for a year, do a post-campaign study to determine what influence we've had on attitudes.

This is the only means of measuring true effectiveness.

A public program can still be done without the survey, although the survey is an essential tool in shaping public opinion.

Here are the steps for taking the program to the public. They should be instituted only after governmental agencies are well-informed and ready to answer and serve the public knowledgeably:

1. Develop a theme as outlined.
2. Keep constantly abreast of developments in the field and assign spot features to suitable media. Begin with natural history publication exposure. Develop mass exposure through daily press, wire services, news magazines and broadcast.
3. Prepare and mail press releases as new developments occur or as they are created for publicity purposes.
4. Form a citizen's lobby expressly for peregrine recovery. This should include some significant public names.
5. Field all press questions and either provide answers or direct the press to one of the team members with expertise in the area of request.
6. Form a speakers bureau. Provide transportation and a small honorarium to team members on the bureau. Be selective. Encourage other agencies to form local speakers bureaus on the peregrine recovery effort.
7. When dealing with the press, use the press kit. Tailor each kit to a particular medium when possible (tapes for radio stations, slides or film for TV, glossies for print.)
8. Prepare public service television spots for the 650 TV stations in the United States. Get Canadian Film Board approval for use of the same in Canada. See if Canada will cooperate on paying for production and distribution.
9. Prepare public service ads for magazines. These must be done in a variety

of sizes, as they are placed in the magazine at the last minute when advertisers cancel ads or articles run short.

10. Prepare public service radio scripts and/or tapes, depending on budget.
11. Prepare a mailer for TV and film producers indicating that we can provide technical expertise for any vehicles they may be doing on peregrines or raptors.
12. Establish a photo file for press and publication use.
13. A 16mm movie with enough prints for distribution (in rotation) to TV stations, organizations, government agencies, should be produced as budgets permit. It should follow the theme we develop and reflect the philosophy of the peregrine effort. It can be of high artistic merit and of award-winning calibre to insure wide exposure. It will get considerable air time.

Time and Costs

Timing is essential to the peregrine recovery effort. The recommendations that follow provide a simple but high-impact program that will give the effort an increase in public awareness of what is now probably less than 1 percent to 25 percent in six months. It will grow as time passes and as the program can be expanded.

The costs incurred on behalf of the Peregrine Recovery Team will be billed at net, or wholesale, through an arrangement with an affiliated advertising agency.

The costs estimated on the following pages are somewhat high in order to facilitate the possibility of cost increases prior to actually beginning production.

Experience indicates we will come in at about 10 percent less on most of the jobs outlined.

In the second and continuing years of such a program (and you will definitely need a continuing program), some of the initial start-up costs will no longer be necessary (the film costs, brochures, posters and other materials can be reprinted at great savings.)

A service fee is covered in the section following the media/collateral material stepdown.

Media/Collateral Materials

Budget Fiscal Year 1976

PRCS Production Estimates - (All jobs bid and billed at wholesale)

LOGOTYPE

Concept and development of Logotype, logotype sheets for use on all public service magazines, ads, press kits, brochures, TV spots, literature, research and printing of letterheads and envelopes.	$ 1,000.00
Art direction, expediting, meeting and research on above.	covered by service fee
TOTAL LOGO	$ 1,000.00

BROCHURES & POSTERS

Photography, design, layout and printing of 100,000 four-color brochures*	$ 5,000.00
Art direction, concept, copywriting, research, print bidding & control, supervision of distribution	covered by service fee
Typography, layout, photography, art design and printing of 10,000 four-color approx. 20" x 30" posters*	$ 2,500.00
Concept, art direction, copywriting, research, bidding, printing supervision, proofing, distribution, planning and directing	covered by service fee
TOTAL BROCHURES AND POSTERS	$ 7,500.00

AUDIO VISUAL PRESENTATION

This can be very simple or very elaborate. It can be duplicated for distribution to public agencies - if they will use it. Cost for basic 14 minute slide or filmstrip presentation (50 slides) - (Quantity needed will determine whether to go 35mm slide or filmstrip) - including photos, voice talent, taping and studio costs. (Duplicates can be offered for sale at very low cost per duplicate A/V set)	$ 1,000.00
Concept, art direction, photo direction/selection, copywriting, script coordination, voice talent search, supervision of studio production, mastering of tapes, selection of A/V system.	Covered by service fee
TOTAL AUDIO/VISUAL	$ 1,000.00

*Can be offered for sale to public to defray costs.

PRESS KITS

Press releases for press kits	Covered by service fee
TV scripts for press kits	Covered by service fee
Photos and slides for press kit - 2 5x7 glossies, 2 slides per kit, (40¢ ea. glossies, 50¢ ea. slides), 2,000 kits for initial program (can drop slides if too costly).	$ 4,000.00
Bid mass production, stuff kits, select and review photos, research	Covered by service fee
Artwork, design, layout, photography and printing of kit covers - four-colors, 2,000 initial print run (unit costs drop if more are run).	$ 2,500.00
Kit envelope - print 2,000 in one color	500.00
Concept, art direction, copywriting, research, bidding, technical coordination, printing supervision, proofing, plan and direct distribution	Covered by service fee
TOTAL PRESS KITS	$ 7,000.00

COMBINATION HUNTER POSTER/LEAFLET

For hunter postings 100,000 quantity, including art design, layout, photography and printing	$ 1,000.00
Concept, art direction, copywriting, research, bidding, technical coordination, printing supervision, proofing, plan and direct distribution	Covered by service fee
TOTAL POSTER/LEAFLET	$ 1,000.00

MEDIA SHORT COURSE FOR WORKSHOPS	Covered by service fee

ORDER FORMS

Printing of order forms for public service materials purchased (at cost) by public and private agencies	$ 250.00
Art direction, copy, layout, proofing and distribution	Covered by service fee
TOTAL ORDER FORMS	$ 250.00

NEWSLETTER

Photography and printing of 5,000 - 9 issues @ $500.00 per issue	$ 4,500.00
Copywriting, editing, layout, assignments, proofing, supervising of printing, handling, collecting mailing lists and updating, delivery to post office	Covered by service fee
Address labels/plates - 5,000 per newsletter. Initial set-up fee	500.00
9 mailings @ $183.50 - $183.50 per total 5,000 mailing ($18.70 per 1,000 to address, $18.00 per 1,000 postage - non-profit rate)	$ 1,651.50
TOTAL NEWSLETTER	$ 6,651.50

PRE-PUBLIC SERVICE CAMPAIGN

ATTITUDE SURVEY	$ 4,000.00
Supervision, structuring of survey, interpretation, report of recommendations	Covered by service fee
TOTAL SURVEY	$ 4,000.00

CITIZENS LOBBY

Conceive group structure, contact individuals as necessary, call meetings, coordinate, handle correspondence, board meetings, seek additional funding	Covered by service fee

PRESS/INFORMATION

Preparation of press releases. Write, research, edit, distribute. Includes coordinating meetings, interviewing, interviews, press conferences. Includes creating concepts and ideas for motion pictures, television, newspaper, radio. Includes contacing all media, planning and execution of special media events.	Covered by service fee

PUBLIC APPEARANCES

Would include public speaking engagements if desired, with transportation and per diem being only additional costs.	Covered by service fee

SPEAKERS BUREAU

If individual does not handle speaking: PR team personnel with time and interest in speaking before nation groups, conventions. Organize, accept invitations, assign team members by rotation	Covered by service fee

PUBLIC SERVICE TELEVISION

Develop concept, direct art, photography, talent, studio sound and film editing work; do script writing. Serve as producer/director on 2 :30 sec. public service spots	Covered by service fee
Production costs of TV - 2 :30 spots	
Camera man	$ 2,000.00
Sound man	1,000.00
Studio costs/film rushes/AB rolls and rough cut	1,000.00
Prints for 650 TV stations, PBS, Nets, CBC (This is trimmed list - regularly 650 stations in U.S. alone) @ $5.00 per print (both commercials on print)	$ 2,500.00
Postage and packaging	500.00
Accompanying letter, phone calls to network public service directors, PBS public service directors	Covered by service fee
Monitoring as possible by postcard, query enclosure to public service programmers. Correlate, assemble exposures, prepare report	Covered by service fee
TOTAL PUBLIC SERVICE TV*	$ 7,000.00

PUBLIC SERVICE MAGAZINE ADS

Art direction, copywriting, layout, research, photography review, cover letters, personal contact to place ads designed in multiple size for 25 selected magazines	Covered by service fee
Engraving and elements on PS ads	$ 5,000.00
TOTAL PUBLIC SERVICE MAGAZINE	$ 5,000.00

PUBLIC SERVICE RADIO**

Conceive, write, direct studio work, edit, arrange for talent on three radio spots	Covered by service fee
Option A. Produce discs for 5,500 radio stations @ $2.00 ea = $11,000.00	
Option B. Send written copy with announcer instructions	$ 1,000.00
RECOMMENDED TOTAL RADIO	$ 1,000.00

* Can this and other costs be shared with Canada?

** The Peregrine Recovery Program is visually interesting and radio should not be used at the expense of TV.

TV AND FILM PRODUCER BROCHURE*

Conceptualize, write copy, art direction, layout, supervise production, supervise printing, research; review photos on medium priced, high impact folder for visual media producers, directors and writers, both network and independent	Covered by service fee
Printing of 2,000	$ 1,500.00
TOTAL FILM PRODUCER BROCHURE	$ 1,500.00

PHOTO FILE

Beg, borrow, steal photos from team members, falconers, ornithologists, magazines, clubs and organizations, individuals, Make files for quick reference and retrieval.	Covered by service fee
Fund for duplicating film and photos at press request or to illustrate concepts.	$ 2,000.00
TOTAL PHOTO FILE	$ 2,000.00

FILM**

Conceptualize, write script, assign production details, schedule shooting, produce, direct, edit a 14 minute film. Handle distribution on rotating basis, asking Nets and stations to make VTRs and return film	Covered by service fee
Camera, sound, and studio @ $1,500.00 minute running time	$ 21,000.00
TOTAL FILM	$ 21,000.00

MISCELLANEOUS

Telephone, postage, xerox	$ 2,000.00
Miscellaneous travel	3,000.00
TOTAL MISCELLANEOUS	$ 5,000.00
TOTAL PEREGRINE RECOVERY I & E	$ 70,901.50

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*This piece might also be used to send to public agencies doing film work. Additional quantities would be inexpensive.

**Several areas to save costs. Presented is optimum. Morlan Nelson might work with us on this.

Service Costs

The Peregrine Recovery Staff Consultants Proposal is quite unique.

Because of timely circumstances, we would bring the following resources as part of PRSC:

--A writer/advertising/public relations/marketing specialist, chairman of the board of a 29 year-old advertising agency billing approximately 1 million dollars a year; it is a firm with an outstanding record in placement of public service and public information (for the Utah Travel Council, the National YMCA, New York; Federal Employees Credit Union). Author, former copy supervisor for Proctor and Gamble Co., former daily newspaper writer and editor; director and producer of several films; information representative for a special opinion-making program for Utah State University's Ecology Center. He would be co-director.

--A Raptor Rehabilitation Specialist (Federal Special Purpose Permit 6-SP-179. See her report dated 31 December 1975 to special agent in charge, USF&WS, Denver, Colorado, 80225), with membership in Raptor Research Foundation. She has a professional interest and knowledge of the natural history of birds of prey. Volunteer agent for state fish and game division, researcher, photographer, naturalist, press representative. She would be co-director.

--An art director with national awards to his credit.

--A media buyer placing paid advertising for the firm who would also request the media run free advertising for the peregrine recovery effort.

--A broadcast specialist with outstanding production capabilities.

--A marketing and advertising specialist with governmental and political credentials--former press secretary to a governor; director of state tourism; corporate advertising manager handling national corporate accounts in excess of $20 million per year.

--CPA services.

Staff consultants would be covered by a monthly service fee of $2,400, or $28,800 per year.

This covers attendance at all meetings, all planning, all creative work, copy writing, research, coordination, press meetings, concepts created on behalf of the effort as outlined. It does not cover travel or per diem.

Overhead such as office space, telephones, typewriters and business machines, files, desks, furnishings, autos and local transportation are all covered in the service fee.

Base

--Salt Lake City--base of operations--offers centralized proximity to all parts of North America. It is a maximum four hour flight from anywhere in the lower forty-eight states and slightly more to Alaska.

--Salt Lake City offers network feeds to NBC, CBS, ABC, PBS, as well as AP and UPI "A" Bureaus.

--Salt Lake has two daily newspapers.

Trade unions are weak in Utah and as a result wages are low. Printing costs average 12 percent less than in Los Angeles, for instance. The cost of technical support services are lower, too. TV production, and motion pictures are shot at considerable savings in Salt Lake by Hollywood and New York production companies.

Staff consultant offices would be:

400 Continental Bank Building
200 Main Street
Salt Lake City, Utah 84101

We have two telephone numbers:

801-355-1766 Office
801-278-3466 Home

A Consideration

The PRSC proposal covers a significant portion of the management services necessary to conduct the business of the Peregrine Recovery Team activities throughout North America.

Since the peregrine program is spread coast-to-coast; consider a consolidated staff management system with accountability.

With the co-directors concept, it would be possible to use the PRSC structure to provide full management services at little additional cost. This would include the establishment of master files for the program; data bank and information sharing/clearing house; official correspondence would be handled. Meetings would be scheduled, agendas established, recommendations offered for advice, consent, approval and action. All secretarial services would be provided. Staff consultants would also attend necessary meetings with agencies both public and private.

The PRSC management proposal include meeting and screening persons seeking to conduct business or complain.

The PRSC management proposal gives the Peregrine Recovery Teams an independent vehicle with which to deal with legislative matters.

The management proposal would mean a single operations center with clear-cut goals, constant contact with the program at all levels. This means more effective, less costly administration.

The Peregrine Recovery Team will have to define the parameters and responsibilities of the staff in relation to whatever governing/policy-making structure you establish.

The Peregrine Recovery Teams would make policy; staff consultants would advise and implement that policy in business matters and in broad terms, areas where public contact is necessary.

PRSC can administer budgets, take in and disburse funds, write proposals, seek grants.

PRSC would structure a simple but effective office system designed for fast, flexible response and advance planning.

We offer our services in structuring and conducting a one-day workshop, at which time priorities would be established and timetables would be set. The workshop would be conducted at no cost. After completion the depth of further management service would be known and costs could be assigned them.

All costs will be estimated in advance and bid when possible.

Appendix D

LETTERS OF COMMENT ON THE INITIAL DRAFT OF THE RECOVERY PLAN (dated July, 1976)

The full text of each letter of response has been reproduced. For coding purposes, each letter has been assigned a letter of the alphabet and pertinent questions or comments within each letter have been sequentially numbered. In responding to the questions or comments, reference will be made to the letter's alphabetical code and the sequentially numbered portion of the letter (Example: Code A-1 refers to the first pertinent comment of letter A).

ED HERSCHLER, Governor
A. J. "JACK" HULL, Pres., Laramie
FLOYD CARR, Vice Pres., Sundance
CHARLES H. BROWN, Wheatland
DR. DE WITT DOMINICK, Cody
GENE BONDI, Sheridan
ROGER WEIDNER, Evanston
DAVE WHEELER, Lander

State of Wyoming

EARL M. THOMAS
Director
W. DONALD DEXTER
Assistant Director
REX CORSI
Chief Game Warden
JOSEPH R. WHITE
Chief Fish Warden
PETER N. TERTIPES
Chief Fiscal Officer
CHESTER C. ANDERSON
Chief Research & Development

A

GAME AND FISH DEPARTMENT
CHEYENNE 82002

U.S. FISH & W...
SEP-2 1976
DENVER

August 31, 1976

Mr. Harvey Willoughby
Regional Director
United States Fish and
Wildlife Service
P. O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Harvey:

We received under date of August 20, 1976, a draft of the Recovery Plan developed by the American Peregrine Falcon Recovery Team. We realize that this plan has reference to the Rocky Mountain/Southwest population. We have had the plan reviewed by those people in our Department most knowledgeable on such matters and would like to submit the following comments so that you have them prior to the September 20th deadline.

All of the historical data available to us indicates that the peregrine was probably never more than a rare breeding resident in Wyoming and attempts to either establish or reestablish breeding populations would be difficult at best. We would caution against overlooking the possibility of creating any undue competition between the peregrine and some rather well established breeding populations of prairie falcon. We feel that the release of captive reared birds at this time would best meet the objectives of the Recovery Plan if releases were made in areas where the peregrine was once quite numerous and better suited to the release of captive birds.

The manipulation of clutches would have little benefit to the project unless eggs for captive production purposes are unavailable in areas of denser peregrine occurrence. Numerous mentions are made in the Plan of existing and unused nesting sites in Wyoming. If the specific location of these sites could be revealed and documented to us, we would recommend that the Department monitor, analyze and compare the eyries and continue an attempt to locate additional sites previously unknown and not documented. We could and certainly will continue our efforts to provide intense protection to the peregrine and its habitat in areas where it is known to occur, or for that matter, where it could potentially occur. We will continue and expand our determination of occupancy and bird production of eyrie sites. Again, based on the past documented location of such sites available to us.

We feel we can make these contributions to the Recovery Plan by utilizing our present field personnel and incorporating these activities with their general field duties. We further feel that the cost to this Department would be compatible with expenditure levels recommended in the Recovery Plan.

We sincerely hope this information will be of some assistance to you and extend our thanks for the opportunity to comment.

Sincerely,

Earl M. Thomas

EARL M. THOMAS, DIRECTOR
WYOMING GAME AND FISH DEPARTMENT

EMT:saw

Cpy to RD
orig to FAr

REGIONAL
REPRESENTATIVE

ARIZONA • COLORADO
IDAHO • MONTANA
UTAH • WYOMING

NATIONAL AUDUBON SOCIETY

P. O. BOX 3232 • BOULDER, COLORADO 80303 • (303) 499-0219

September 1, 1976

B

Mr. James Gritman
Acting Regional Director
U.S. Fish & Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Gritman:

I read the American Peregrine Falcon Recovery Plan with much interest and was impressed by the obviously detailed and in depth thought which the team put into this project.

In my opinion, the implementation schedule looks good and the budget realistic. Hopefully as more state wildlife agencies accept the challenges of nongame wildlife, especially endangered species, the legislatures and/or commissions will understand the necessity to properly fund these activities.

The peregrine is one of a hundred plus endangered species, all of which desparately need help. It is a "dramatic" species whose successful re-establishment could be a catalyst for the implementation of programs for other endangered species, many of which lack the glamour of the peregrine.

Congratulations to the recovery team.

Sincerely,

Robert K. Turner
RKT/dln

AMERICANS COMMITTED TO CONSERVATION

STATE OF KANSAS
Forestry, Fish and Game Commission

Box 1028
PRATT, KANSAS 67124
(316) 672-5911

September 2, 1976

C

Ref: SE/Peregrine Falcon

Our: 225.2

James C. Gertman
Acting Regional Director
U.S. Fish and Wildlife Service
P. O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Gertman:

I am in receipt of a copy of the Peregrine Falcon Recovery Plan for the Rocky Mountain/Southwest Populations.

It appears that the plan has been put together with much thought and planning and I cannot find any areas that have not been covered. As you mentioned in your cover letter the proof of the plans lie in the hands of the various states, especially in manpower and budgeting. Since we have suffered a rather severe cutback in field personnel and budget our ability to aid in the recovery effort will be somewhat hampered.

We hope to be able to comply with the proposed budget as indicated in the plan, however enough lead time must be given to get the items prepared for the budgetary process. This is normally one year in advance of when the monies are needed.

I would be interested in obtaining copies of the literature pertaining to the four historic nesting sites in Kansas. I can find reference to only two such sites.

Sincerely,

Bill D. Hlavachick
Bill D. Hlavachick
Game Biologist

BDH:hfp

RECEIVED
SEP 7 '76
FEDERAL ASSISTANCE

United States Department of the Interior

NATIONAL PARK SERVICE
MIDWEST REGION
1709 JACKSON STREET
OMAHA, NEBRASKA 68102

IN REPLY REFER TO:

N1419 MWR MN

D

Memorandum

To: Acting Regional Director, Region 6
U.S. Fish and Wildlife Service, Denver, Colorado

From: Regional Director, Midwest Region

Subject: Peregrine Falcon Recovery Plan

Thank you for providing us with an opportunity to review the subject plan, prepared by the Rocky Mountain/Southwest Population Recovery Team. We believe the plan is very comprehensive, with its references to the bird's habitat, prey, protection, productivity, captive propagation, and the information and education program.

We have no comment on the proposed budget, since obligation of National Park Service funds is not indicated for the Midwest Region states of Kansas and Nebraska.

Odell A. Hanson
Regional Director

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

United States Department of the Interior
NATIONAL PARK SERVICE
SOUTHWEST REGION
P.O. Box 728
Santa Fe, New Mexico 87501

174

IN REPLY REFER TO:

N1419(SWR)ONR

SEP 2 1976

E

Memorandum

To: Regional Director, Region 6
U.S. Fish and Wildlife Service, Denver, Colorado

From: Regional Director, Southwest Region

Subject: Peregrine Falcon Recovery Plan Review

Thank you for the opportunity to review the Peregrine Falcon Recovery Plan draft. One member of my staff was involved with the plan throughout its preparation, and so this office has had input from the start. I believe that it is a good plan that can lead toward the recovery of the species.

E-1 I do want to point out one major facet that seems to be lacking in the plan. The need for the elimination of DDT use in Mexico and Central America must be stressed more. Although this topic is discussed in the plan, it comes out as secondary or tertiary importance to the recovery of the Peregrine. On page 65 (5222) of the plan, it suggests that there is still some question about the effects of DDT. This data is readily available and numerous publications are available that document the mass of data that prove that DDT is the reason for the decline of Peregrines throughout the world. Sections of the plan that deal with the International programs for the reduction of elimination of DDT use should perhaps be expanded.

United States Department of the Interior
BUREAU OF RECLAMATION
PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043-550 WEST FORT STREET
BOISE, IDAHO 83724

IN REPLY REFER TO: 160

565.

SEP 2 1976

Memorandum F

To: Regional Director, Region 6, U. S. Fish and Wildlife Service, Denver, Colorado

From: Regional Director, Bureau of Reclamation, Boise, Idaho

Subject: Falcon Recovery Plan (Your letter of August 20, 1976)

F-1 We have reviewed the subject plan and believe it to be ambitious and commendable. One area which seems to be lacking in your plan is knowledge of peregrine falcon populations in other countries, particularly in the European continents. If, for example, peregrines are doing well in Germany or Sweden, it might prove beneficial to study their living requirements and assess habitat conditions as a comparison to conditions and requirements on this continent. Realizing that this effort would be an increase in your budget, it could result in information which would enable quicker achievement of the prime objective.

Thank you for giving us the opportunity to review this plan.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
COLORADO STATE OFFICE
ROOM 700, COLORADO STATE BANK BUILDING
1600 BROADWAY
DENVER, COLORADO 80202

FA

IN REPLY REFER TO
CO-933
6840

SEP 3 1976

Memorandum

G

To: Regional Director, Region 6
U. S. Fish and Wildlife Service, Denver, Colorado

From: State Director, BLM, Colorado

Subject: Peregrine Falcon Recovery Plan

As requested by your memorandum of August 20, 1976, we have reviewed a draft of the American Peregrine Falcon Recovery Plan (Rocky Mountain/Southwest Population). I find the Plan to be of exceptional quality and useful as a habitat management guidance document, particularly Section 1, pp. 31-41 and Appendix 1. More specific comments are as follows:

	Page	Section	Comment
G-1	i	Preface	In view of the Plan Content, Section 1,I suggest you add Number 5, "Protection and enhancement of existing habitat." (See p. 37, No. 12, "Maintain and upgrade suitable habitats to insure they remain attractive to peregrines.")
G-2	40	13	Although a sensitive issue, it may be of value to add a sentence stating that critical habitats, use areas, or whatever will be made available to managing agencies. (We can't protect falcon habitat if we don't have easily available map knowledge of where it is.)
	46	23	BLM in Colorado will have five sets of infrared sensor - remote control camera monitoring units available for use after November 1, 1976. We would be glad to operate these cooperatively with you in monitoring falcon nest sites.

SEP 13 1976
VER, COLO.

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Page	Section	Comment
60	422	We presently have a 35 mm color slide series from Cornell University on peregrine falcon propagation. We will be glad to use this as a public affairs tool to assist you with your public awareness program.
69-100	Budget	The proposed BLM budget allocations, both for Colorado and the Bureau, appear reasonable. The critical point in obligating these will be as much advanced planning time as possible, preferably two years, to get funds approved in our annual work plan. Habitat inventory efforts, which require our manpower involvement, will have to be assigned to our Districts on the basis of priority work for energy development and livestock grazing environmental statements. It would also be of help to us if you included a summary of costs by agency at the end of each State budget table.
107-108	Appendix 1	I assume that you will eventually be more specific on a State-by-State basis to define those . . . "land use practices and/or development that will alter or eliminate existing habitat within one mile distance of the nesting cliff(s) . . . and character of the hunting habitat or food source . . ."

As I have stated before, we will do everything possible to assist the American Peregrine Falcon Recovery Team and comply with the Endangered Species Act of 1973, particularly Section 7. Our BLM contact in the Colorado State Office for the falcon is Ed Roberts, Room 700, Colorado State Bank Building, 1600 Broadway, Denver, Colorado, Telephone: Commercial, 837-3264; FTS, 327-3264.

Charles W. Luscher
Acting

FA

RECEIVED
SEP 7 '76
FEDERAL ASSISTANCE

VARIETY IN HUNTING & FISHING

NORTH DAKOTA GAME AND FISH DEPARTMENT BISMARCK, N.DAK.
58505

September 3, 1976

H

Mr. James Gritman, Associate Director
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Gritman:

The Game and Fish Department has completed its review of the American Peregrine Falcon Recovery Plan. While we support the recovery concept, we are skeptical whether all the jobs outlined in this rather ambitious plan can be accomplished. We also have some reservations on the practicality of certain proposals in the report. Following are our comments and questions on the recovery plan:

H-1 Jobs 1221 and 1223 - How are these prohibitions to be carried out? It's one thing to say "prohibit" but another to get it done. What about private lands? The report assumes all states have an abundance of public land and certainly implementation of the plan would be more easily accomplished where land management responsibilities are with the federal government. Here in North Dakota approximately 90% of the state is in private ownership. This creates definite hurdles when undertaking a project of this nature, particularly where land use matters are involved.

H-2 Job 1222 - Will "eyrie wardens" be a state or federal responsibility? We question the practicality of "eyrie wardens".

H-3 Jobs 132 through 133 - There appears to be considerable dependency on the states to enact legislation necessary to make the recovery plan "work". What course of action will be pursued if this important state legislation does not materialize. Over the years wildlife legislation in our agricultural oriented legislature usually has not received widespread support.

Job 1333 - It is doubtful whether this state would use the power of eminent domain for this purpose. If critical habitat or eyrie sites are to be purchased, it may have to be done by the federal government. We operate on a willing seller basis and all sales are dependent on county commissioner and Governor approval.

RUSSELL W. STUART
COMMISSIONER

WILBUR BOLDT
DEPUTY COMMISSIONER

H. H. SPITZER
CHIEF, ENFORCEMENT DIVISION

DALE HENEGAR
CHIEF, FISHERIES DIVISION

C. R. GRONDAHL
LEADER, GAME INVESTIGATIONS

R. L. MORGAN
LEADER, HABITAT DEVELOPMENT

PERSHING CARLSON
CHIEF, PUBLIC RELATIONS DIVISION

Job 222 - We note that manpower needs are given for this
H-4 particular job. It would be most helpful if in addition to budget
requirements, manpower estimates were also given for the various
jobs.

Page 69 - (Budget) - North Dakota's anticipated contribution
($24,000) for the five year period is minor in comparison to the
H-5 $3,000,000 required for the entire project. We nonetheless must
budget for this amount in advance of when it is needed. In reviewing
the report, we were unable to find a timetable when this project
is to commence. Is it 1977,1978 or when? This no doubt is a
major consideration for most state conservation agencies. Our
1977-79 biennial budget has already been submitted, therefore,
the earliest we could become actively involved would be 1979.
With a small staff and tight finances any involvement prior to that
time would be limited.

Page 109 - Add the name of Stan Kohn to the list of individuals
H-6 from North Dakota. He is the Department's non-game biologist.

We appreciate the opportunity to review and comment on this American Peregrine Falcon Recovery Plan.

Sincerely,

Larry Kruckenberg

Larry Kruckenberg
Natural Resources Coordinator

LK:fr

IN REPLY REFER TO
6840
(U930)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

SEP 7 1976

Memorandum

To: Regional Director, Region 6, U.S. Fish and Wildlife Service, Denver, Colorado

From: State Director, Bureau of Land Management, Utah

Subject: Peregrine Recovery Plan

We have reviewed the draft Peregrine Falcon Recovery Plan and find it to be the best such plan we have seen to date. BLM in Utah is looking forward to assisting the Recovery Team in meeting its objectives. It is assumed that specific fiscal or calendar years will be assigned so that all groups and agencies will be able to program their work in the proper sequence.

It appears that we will have no problems meeting the implementation schedule and budget as outlined, so long as our wildlife program funds are not diminished in the future. We are currently funding a cooperative Raptor Biologist in cooperation with the State Division of Wildlife Resources and the U.S. Forest Service. These positions and other regular employees should be able to meet the habitat inventory and information and education segments of the plan.

We anticipate continued funding for implementation of Bureau Wildlife Habitat Management Plans (HMP's) under the Sikes Act authority. As these plans are developed and implemented, we will give high priority to cooperative programs to reintroduce peregrines into historic habitats on national resource lands.

Again, congratulations on a fine job and let us know as far in advance as possible of detailed needs from BLM in Utah.

Paul L Howard

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Range, Timber & Wildlife Staff Unit
1720 Peachtree Road, N. W.
Atlanta, Georgia 30309

2630
September 9, 1976

Mr. James C. Geitman
United States Department of the Interior
Fish and Wildlife Service
P. O. Box 25486
Denver Federal Center
Denver, Colorado 80225

J

Dear Mr. Geitman:

We appreciate the opportunity to comment on the draft of the Recovery Plan developed by the Rocky Mountain Southwest Peregrine Falcon Recovery Team. While the plan appears quite comprehensive, we do not feel qualified to comment as our problems in the East are quite different. Any discussions of budgets must come from the Regional Foresters of the involved Regions.

Sincerely,

R. N. Gashwiler
Group Leader
Range & Wildlife

H & WILDL
SEP 13 1976
VER, COLO.

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Missouri Region
P.O. Box 2553
Billings, Montana 59103

F H

IN REPLY
REFER TO: 160

SEP 9 1976

K

Memorandum

To: Regional Director, Fish and Wildlife Service, Denver, Colorado

From: Regional Director, Bureau of Reclamation, Billings, Montana

40t108

Subject: Falcon Recovery Plan (Mr. Gritman's August 20 Memorandum)

The American Peregrine Falcon Recovery Plan appears quite complete and provides some hope that the species has a future. It is also a valuable reference.

Although we do not have a copy of regulations issued to implement it, we believe you may wish to cite the 1972 amendments to the Convention with Mexico for the Protection of Migratory Birds and Game Mammals as an additional legal basis for the protection of peregrines in Section 232 of the Plan. The inclusion of Falconidae among the protected families provided a basis for protecting the species antedating the 1973 Endangered Species Act and the Convention on Trade.

The Bureau of Reclamation has been assigned no role in the Recovery Plan, and so far as we know, peregrines are absent from lands under our jurisdiction in the Upper Missouri Region. The Plan's budget is ambitious, over $3 million in 5 years, and we have some doubts about the ability to secure this amount for the project, but we wish you luck.

E. R. Wilde

E. R. Wilde

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

SEP 13 1976
...VER, COLO.

T H

United States Department of the Interior
NATIONAL PARK SERVICE
Pacific Northwest Region
Fourth and Pike Building
Seattle, Washington 98101

IN REPLY REFER TO:
K4219
(PNR)MR

September 10, 1976

L

Mr. Harvey Willoughby
Regional Director, Region 6
U.S. Fish and Wildlife Service
Denver Federal Center
P.O. Box 25486
Denver, Colorado 80225

Dear Mr. Willoughby:

We have reviewed the draft of the "American Peregrine Falcon Recovery Plan." We feel it is most comprehensive and heartily endorse this plan. All possible facets for the recovery of the peregrine have been brought out in the program.

You can be assured that we will assist in every way possible to conduct the dissemination of Interpretive and Educational materials relative to the program within the areas involved in this Region.

Perhaps your plan should include Craters of the Moon National Monument and Nez Perce National Historical Park. It appears that these areas provide the necessary habitat for the species, although no peregrines have been recorded in the two areas.

Sincerely yours,

Edward J. Kurtz
Acting Regional Director

SEP 13 1976

state of utah

DIVISION OF WILDLIFE RESOURCES

JOHN E. PHELPS
Director

1596 West North Temple/Salt Lake City, Utah 84116/801-533-9333

FA

September 10, 1976

RECEIVED
SEP 16 '76
FEDERAL ASSISTANCE

M

Mr. Harvey Willoughby
Regional Director
U. S. Fish and Wildlife Service
10597 - 6th Avenue
Denver, Colorado 80225

Dear Harvey:

Thank you for the copy of the American Peregrine Falcon Recovery Plan for review.

I have been rather close to this plan in its development as one of my personnel is on the team, so no detailed review is necessary.

As to the budget portion, I feel the figures are realistic and affordable. However, I have a real concern over the availability of federal funding and our qualifying for same. Since May, we have been expecting Tad Lane to meet with us and discuss several issues we have raised regarding recovery teams and plans. We are still waiting.

Sincerely,

John E. Phelps
Director

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SEP 15 1976
REGIONAL DIRECTOR

GOVERNOR
Calvin L. Rampton

DEPT OF NATURAL RESOURCES
Gordon E. Harmston
Exec Director

WILDLIFE BOARD
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Leland S. Swaner
Leslie J. Anderson

IN REPLY REFER TO

6840(930)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

EASTERN STATES OFFICE
7981 Eastern Avenue
Silver Spring, Maryland 20910

SEP 14 1976

N

Memorandum

To: Regional Director, Fish and Wildlife Service, Denver

From: Director, Eastern States

Subject: Review and Comment of the American Peregrine Falcon Recovery Plan (Rocky Mountain and Southwest Population)

We have reviewed the subject draft plan, as requested in your memorandum of August 20, 1976.

The overall proposal appears to be exceptionally well researched, documented and written. We have no special expertise or knowledge on our staff to effectively evaluate the proposal, and therefore, have no further comments.

ACTING Lane J. Bowman

STATE OF MONTANA

DEPARTMENT OF

FISH AND GAME

Helena, MT 59601

FA

September 14, 1976

Mr. Harvey Willoughby
Denver Federal Center
P. O. Box 25486
Denver, CO 80225

0

Re: SE/Peregrine Falcon

Dear Mr. Willoughby,

We have reviewed the draft Recovery Plan for the American peregrine falcon. The plan appears complete, and presents a sequence of objectives which, if met, will undoubtedly enhance the prospects of survival for this species.

We in Montana are certainly willing to do our share. Our willingness, however, must be tempered by our ability to fund these efforts. At present, the level of funding suggested by the plan for our agency is simply not available. Should funds become available pursuant to sec. 6 of the Endangered Species Act, we could certainly become more involved in the peregrine recovery effort. But even then, the peregrine would have to take its place among the other endangered species which occur in Montana when funds are applied to recovery efforts.

In the absence of sec. 6 money, we can only participate in item 422 (Disseminate I&E materials). We have already done some I&E work for the benefit of the peregrine, and are willing to do more. It is doubtful, however, that our future efforts will reach the recommended $1000/year level.

Thank you for the opportunity to review the draft plan. You can be assured that we will participate to the extent that funds are available for that purpose.

Sincerely,

Wes Woodgerd

Wesley R. Woodgerd
Director

WRW:DLF:pcw

U. S. FISH & WILDLIFE SERVICE
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SEP 17 1976
REGIONAL DIRECTOR
DENVER, COLO.

SOUTH Dakota
Department of Game, Fish and Parks
Pierre, South Dakota 57501 · Phone 224-3387

Division of Administration
3305 West South Street
Rapid City, SD 57701
PHONE: 394-2391

September 14, 1976

P

James C. Gutman
Acting Regional Director
Fish and Wildlife Service
PO Box 25486
Denver Federal Center
Denver, CO 80225

Dear Mr. Gutman:

Thank you for the opportunity to review the Recovery Plan developed by the American Peregrine Falcon Recovery Team (Rocky Mountain/Southwest Population).

I would like to comment on a few items in your implementation schedule:

P-1 1.) In the proposed budget section, for the State of South Dakota, page 94, the first task mentioned is Job 1112, the last sentence of which speaks to "Analysis to be based upon data obtained in Task 1111." In so far as I've been able to determine, we've not been assigned and have no funds budgeted for Task 1111. Was this an oversight or are we to fund this by some other means? Or does Tasks 1112, 1113, 1114 and 1121 all fall under Task 1111?

2.) Tasks 1221 and 1223 might not be possible to implement due to existing policies of this Department, specifically the inclusion of special closures or restrictions on private lands. This may or may not become a problem depending on the Team's recommendation of method and location of reintroduced peregrines.

In general, the overall plan seems to be thorough and well thought out. We are looking forward to participating in this program.

Sincerely,

Jon C Sharps

Jon C. Sharps
Resource Management Specialist

JCS/dmh

cc Popowski
Thompson
Jackson

U.S. FISH & WILDLIFE SERVICE
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SEP 17 1976
REGIONAL DIRECTOR
DENVER, COLO.

SOUTH DAKOTA

IN REPLY REFER TO
6840 (931)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
State Office
P. O. Box 1828
Cheyenne, Wyoming 82001

SEP 1[illegible] 1976

MEMORANDUM

Q

To: Regional Director, Region 6, Fish and Wildlife Service, Denver Federal Center, P.O. Box 25486, Denver, Colorado 80225

Associate
From: State Director, Wyoming

Subject: Falcon Recovery Plan

We feel the plan is responsive to our inventory, planning and management needs. Inventories and/or surveys can be designed to collect data regarding several specific critical habitat elements. Habitat maintenance and needs will receive management attention through the habitat parameters described in Sections 12 and 13.

The proposed budget is reasonable. However, in habitat management and improvement you can expect costs to increase after the 4th year. Further experience with inventories, observations and application of protective measures will indicate future budget need that fit the Wyoming situation. We will continue to provide program support for inventory/planning and habitat maintenance and/or protection.

The overall plan is an excellent product and one that can be initially implemented. We appreciate the opportunity to provide input.

CONSERVE AMERICA'S ENERGY

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IN REPLY REFER TO
6840(930)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Idaho State Office
Room 398, Federal Building
550 W. Fort Street
P.O. Box 042
Boise, Idaho 83724

September 17, 1976

Memorandum

R

To: Regional Director, Region 6
U.S. Fish and Wildlife Service, Denver, CO

From: State Director, Bureau of Land Management, Boise, ID

Subject: Falcon Recovery Plan

We appreciate the opportunity to comment on the Peregrine Falcon Recovery Plan. The detail of the plan depicts the exceptional work and effort of the recovery team for which we wish to extend our highest compliments.

We certainly concur with the recovery teams priority programs as outlined in the preface of the document. In our opinion, immediate initiation of the four priority programs will result in:

1. Reduction of any further decline of the existing American Peregrine Falcon population in North America.
2. Gaining public support for the American Peregrine Falcon recovery plan, thus funding for the proposed budgets.
3. Continued data collection and refinement of re-introduction techniques from which the recovery plan can be updated and kept current.

Please call upon us should we be of any assistance in the future.

cc: WO (360)

AMERICAN REVOLUTION BICENTENNIAL
1776-1976

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SEP 20 '76
FEDERAL ASSISTANCE

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
324-25th Street
Ogden, Utah 84401

FA

2630

SEP 17 1976

Mr. Harvey Willoughby
Regional Director, Denver Region
U. S. Fish and Wildlife Service
P. O. Box 25486
Denver Federal Center
Denver, Colorado 80225

S

Dear Mr. Willoughby:

We have reviewed the draft recovery plan as requested in your letter of August 20. Overall, a good quality job has been accomplished by the recovery team. We have three comments or concerns:

S-1

1. Generally, we find that budget tasks listed on pages 70-76 for which the Forest Service is expected to contribute funds are within our areas of responsibility and thus would be an acceptable expenditure of monies. For the past year or so, the Forest Service has been involved in a cooperative raptor and raptor habitat program for the State of Utah with the Bureau of Land Management and the Utah Division of Wildlife Resources. Our concern is that a number of those "tasks" listed in the draft will have either had some work done on them or have been completed under our current cooperative program. We do not want to be committed to specific dollar amounts if, in fact, some tasks have had work accomplished. There needs to be some flexibility in the proposed program, and we do not see that built in.

2. The statement on page 67, paragraph 3, last sentence, that "... the first five years after the plan is approved," may not be realistic from a budgetary programing standpoint. We generally need two years lead time to program items. Even when items are included in a budget, there is no assurance as to the amount of dollars in the final budget.

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REGIONAL DIRECTOR
DENVER, COLO.

We should have sufficient lead time to plan for these items once the recovery plan is approved or the dollars will have to be provided through the supplemental process or other agencies.

We appreciate the opportunity to review and comment on this recovery plan.

Sincerely,

Edward R. Schneegas

EDWARD R. SCHNEEGAS
Director
Wildlife and Fisheries

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
11177 West 8th Avenue
P.O. Box 25127
Lakewood, Colorado 80225

FA

2630
September 20, 1976

Harvey Willoughby, Regional Director
U.S. Fish and Wildlife Service
Box 25487
Denver Federal Center
Denver, Colorado 80225

T

Dear Harvey:

It has been a pleasure to review the draft copy of the American Peregrine Falcon Recovery Plan (Rocky Mountain Southwest populations). The plan appears to be well done, properly identifies the job and does a good job of outlining the steps which hopefully will reverse the declining peregrine populations. Following are the comments resulting from our review:

T-1 The plan does not seem to indicate that the physical loss or destruction of habitat is a critical factor in the plight of the peregrine. It indicates the primary cause for population decline has been the birds' accumulation of chlorinated hydrocarbons. If habitat loss or destruction is of a critical nature, we suggest the plan be amended to point out these facts. We do agree that the remaining active eyries are extremely important because of the scarcity of nesting peregrines and the loss of one active eyrie could result in loss of a major portion of the breeding population.

We have particular concern with those sections of the plan that refer to responsibilities and financing. It is important that the perspective be maintained which recognizes the primary responsibility of the Fish and Wildlife Service to be with the protection and research on the wildlife species while it is the primary responsibility of the Forest Service to protect and manage the habitats of those species.

Under the provisions of the Endangered Species Act, we recognize our added responsibilities in the area of endangered and threatened species management. Accordingly, we intend to cooperate in the enforcement of protective regulations and financing recovery programs to the extent finances will permit.

The remainder of this memo relates to specifically indicated jobs. Sections 1111 and 1112 of the corresponding sections of the budget request the Forest Service to analyze and monitor presently used

U.S. FISH & WILDLIFE SERVICE
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REGIONAL DIRECTOR
DENVER, COLO.

-11 (1/69)

eyries at specified locations within certain States. We are not aware of the exact locations of all these sites and will need to know them before an analysis can be made. Since the State wildlife agency has been shown as having the responsibility for coordinating these tasks within each State, we presume they know the locations and will provide such information to us. Please advise if this is not the case. The narrative refers to Appendix B for the proper format. We believe the survey forms were inadvertently left out of the appendix. T-2

Sections 1113 and 1114 provide for surveying of potential habitats. Some Forests have already begun identifying potential habitats. We intend to continue our efforts to identify all suitable areas as funding and manpower allow. It may not be possible to cover the costs of the surveys as proposed and scheduled in the plan.

Budget tasks 1121, 1221, 1223, 131, 132, 1331, 1332, 211, 231, 232 and 333 deal with protection of the peregrine. The funding shown in the budget appears to represent only general administrative type protection. It would be difficult to separate the exact funds needed for these jobs.

Section 1222. The narrative on page 39 states that should a particular site become popular, the responsibility for protecting the site should be the responsibility of the appropriate land management agency, the State agency, and the Fish and Wildlife Service. The budget does not recognize any cost to the Forest Service for this protection. We intend to cooperate in providing protection through establishment of closures and other measures, as provided for in 36 CFR 261(i) and to take action to assure our programs do not jeopardize the site or the peregrine. A cost of $1,000 per site is estimated. T-3

Tasks 321, 322, 331, 332, 3211 and 3212. Funds for augmenting populations with captive-produced young have not been identified. We believe the Fish and Wildlife Service should be primarily responsible for providing funding for the production, introduction and protection of young peregrine falcons. We will cooperate to the extent our financing permits.

Task 422. The funds that are shown also appear to be an administrative cost for disseminating I & E materials provided by the Fish and Wildlife Service. The exact cost would be difficult to assess, but any available I & E material provided us by the Fish and Wildlife Service can be distributed without adjustments in our present I & E program.
Since it is anticipated that the material developed by the Fish and Wildlife Service will not fully meet Forest Service needs, we will be preparing I & E materials on endangered and threatened species which occur on National Forest lands within the Region. The material will also

provide information on habitats and management which is being implemented to maintain and increase each particular species. The cost of developing and disseminating this material will exceed that shown in the plan for the Forest Service. Since our material would involve several species of wildlife, the cost should probably be distributed to the recovery plan for each of the concerned species.

However, with the present funding and manpower situation, we cannot firmly commit ourselves to funding or completing tasks as assigned. We will proceed in an orderly fashion, utilizing available funds and manpower, to complete the priority jobs. As previously discussed, some initial work has been completed and some is planned for the next two years.

Thank you for the opportunity to review the plan. Upon its final approval we would appreciate receiving approximately 50 copies to make available to Forest Supervisors and District Rangers who will be conducting various tasks outlined in the plan.

Sincerely,

CRAIG W. RUPP
Regional Forester

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FEDERAL BUILDING MISSOULA, MONTANA 59801

FA

U.S. FISH & WILDLIFE SERVICE
RECEIVED
SEP 23 1976
REGIONAL DIRECTOR
DENVER, COLO.

(2630)

September 20, 1976

Harvey Willoughby, Regional Director
U.S. Fish & Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO. 80225

Dear Mr. Willoughby:

We have reviewed the draft American Peregrine Falcon Recovery Plan and offer the following:

1. The biological information is complete and accurate.

2. We do not foresee any conflicts with other laws and regulations in the management of the National Forest resources. Public reaction and interpretation of Section 7 of Public Law 93-205 may very well present future resource management conflicts.

3. The size and location of nesting sites and adjacent feeding areas as critical habitat may very well serve as a constraint to Forest Service programs and objectives (items 11, 111, 11113, etc.). The sensitivity of the raptor to human disturbance, as indicated in this recovery plan, for the period of time indicated (8 months) may be constraint to current livestock, timber and recreation management activities as well as minimal exploration.

4. The role of the cooperator is well defined and it appears no one was overlooked.

5. Resource management plans, programs and practices may very well be modified or altered to respond to the needs of the American Peregrine Falcon as outlined in this recovery plan. Item 3 refers to some of the programs, etc.

6. The accuracy of cost estimates for jobs, manpower and funding needs appear to be close to the present cost of doing business.

In addition, the proposed budget in the recovery plan will have an impact on Region 1 of the Forest Service. Our interpretation of the proposed budget shows a dollar need in excess of $30,000 for the 2nd, 3rd and 4th years of this plan. We would not be able to absorb these amounts if any or all of these years were to fall in fiscal years already programmed i.e., FY 77.

3. Our last concern is one of dollar amounts, specifically the probability of getting enough dollars so the proposed program can be implemented at the level visualized. We have totaled the proposed dollar amounts, by task, for the states in the Intermountain Region of the Forest Service. Totals for years 1 through 5 respectively are: \$10,000; \$60,000; \$47,000; \$17,000; and \$7,000.

   We recognize that Forest Service Northern and Southwestern Regions may share some of these dollars for those National Forest lands in Idaho and Wyoming.

   We also recognize that there is a Pacific Coast Falcon Recovery Team who will, no doubt, develop a similar program with undetermined (at this time) dollar needs. This Region will be requested to participate in that program also.

   If we assume that the Intermountain Region's share for peregrine recovery programs (both teams) is \$60,000 and \$47,000 for the second and third years, then we are not sure that we can realistically expect those amounts to be available. We don't want to appear negative but, in our view, these are realities of the situation and should be recognized.

We want to emphasize that the Forest Service is vitally interested in the peregrine recovery effort, and we are cognizant of our management responsibilities in this arena. We will do everything we can to fully cooperate in implementing the program.

We appreciate the opportunity to review and comment on this draft recovery plan.

Sincerely,

VERN HAMRE
For Regional Forester

STATE OF IDAHO

DEPARTMENT OF FISH AND GAME
600 SO. WALNUT ST. P. O. BOX 25
BOISE, IDAHO 83707

September 20, 1976

Mr. James C. Gutman
Acting Regional Director
U.S. Fish and Wildlife Service
P.O. 25486, Denver Federal Center
Denver, CO 80225

Ref: SE/Peregrine Falcon

Dear Mr. Gutman:

We appreciated receiving a draft copy of the peregrine recovery plan for the Rocky Mountain and the Southwest populations. The plan appears to be both comprehensive and inclusive and the team members are to be complemented on their proposal. We enthusiastically endorse the recovery plan and feel the right approach is being taken to restore peregrine populations to safe levels.

At the present time we are under a severe financial stress and have made considerable cutbacks in both programs and personnel. Consequently, we are unable to make a commitment for funding any portion of the plan for at least the next two years. We will be happy to assist on any of the plan phases that can be worked into our normal operating level, such as general protection, dissemination of I. & E. material, etc. Hopefully, our financial crisis will be of short duration so that we may participate in this important program at a higher degree in the near future.

Sincerely,

DEPARTMENT OF FISH AND GAME

Joseph C. Greenley
Director

cc: Morlan Nelson

FISH & WILDLIFE SE
SEP 23 1976
DENVER, COLO.

EQUAL OPPORTUNITY EMPLOYER

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DEPARTMENT OF WILDLIFE CONSERVATION

1801 N. LINCOLN P.O. BOX 53465 OKLAHOMA CITY, OK 73105 PH. 521-3851

September 20, 1976

SE/Peregrine Falcon

W

Regional Director
U. S. Fish and Wildlife Service
P. O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Sir:

Reference is made to the draft Peregrine Falcon Recovery Plan recently submitted. We have reviewed the well developed plan and foresee no particular problem with its implementation.

Although the Oklahoma Department of Wildlife Conservation will have minimal participation and funding outlay it will be necessary that we submit this proposal to our Commission for approval. This will be done at the October Commission meeting and we will submit the Commission decision shortly thereafter.

Sincerely,

George B. Wint
Director

GBW:ERC:LD:bkh

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Arizona State Office
2400 Valley Bank Center
Phoenix, Arizona 85073

IN REPLY REFER TO
6840 (932)

SEP 22 1976

X

Memorandum

To : Regional Director, Region 6
U.S. Fish and Wildlife Service, Denver, CO

From : ASSOCIATE State Director, BLM, Arizona

Subject: Falcon Recovery Plan

X-1 We have reviewed the Recovery Plan, including implementation schedule (proposed budget). There is no indication in which fiscal years the proposed budget will be needed from the respective agencies. Without this information, we would be unable to program the funds requested.

However, at this time, we see no problem in allocating the $31,000 requested over a five year period, providing sufficient funds are available within the Bureau in Arizona to continue existing programs and to accomplish the inventory requested.

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United States Department of the Interior
BUREAU OF RECLAMATION
SOUTHWEST REGION
HERRING PLAZA BOX H-4377
AMARILLO, TEXAS 79101

IN REPLY
REFER TO. 430

565.

SEP 2 3 1976

Y

Memorandum

To: Regional Director, Fish and Wildlife Service,
Denver, Colorado

From: Regional Director

Subject: Falcon Recovery Plan
(Your Memorandum Dated August 20, 1976)

We have reviewed subject plan and find it very comprehensive, appropriate, and well prepared.

As you are aware, the Bureau of Reclamation, Southwest Region, is basically not a land-management agency. Ownership of lands acquired in conjunction with water projects is retained in the name of the United States. The actual management of such lands is assigned to a sponsoring entity and/or respective State fish, wildlife, or recreational agency and, in some instances, Federal agencies such as Fish and Wildlife Service and National Park Service.

Information contained in the recovery plan indicates that hunting habitats preferred by the peregrine falcon are associated with croplands, meadows, river bottoms, marshes, and lakes--all of which are found in or near the proximity of our projects. Although we are unaware of recorded eyries or sightings of the peregrine falcon on Reclamation lands, this does not preclude the possibility of its appearance. However, if presence of these raptors occurs, the Bureau of Reclamation will take appropriate measures through cooperation with appropriate Federal, State, and local entities to assist in protection of these falcons.

We also believe that additional interest and input to the recovery plan should be generated within private sectors. Such private organizations as Ducks Unlimited, Audubon Society, and The Nature Conservancy have materially aided the national waterfowl management program and in preservation of unique habitats for various other species of fauna and flora.

We appreciate the opportunity to review the peregrine falcon recovery plan and to express our continued interest.

J. A. Bailey

RECEIVED
SEP 27 '76
FEDERAL ASSISTANCE

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
STATE OFFICE
P. O. Box 1449
Santa Fe, New Mexico 87501

IN REPLY REFER TO
6840 (930)

SEP 27 1976

Memorandum

Z

To: Regional Director, Region 6
U. S. Fish and Wildlife Service

From: Associate State Director, Bureau of Land Management, New Mexico

Subject: Comments on Falcon Recovery Plan

We are pleased to see the progress which has been made in developing a recovery plan for the American Peregrine Falcon. Such comprehensive plans are essential to accomplish the recovery of our endangered and threatened wildlife.

The recovery programs and funding are realistic. Bureau of Land Management funding should be worked out with our Division of Wildlife in Washington, D. C., since it determines where and on what programs money will be spent. The Bureau in New Mexico is, however, very interested in this program and will seek appropriate funding to do the job. The most pressing needs that we are aware of on national resource lands include:

1. Protection of known eyries.
2. Location and evaluation of potential eyrie sites.
3. Identification of general habitat used by peregrine falcons.
4. Identification and classification of critical habitat.

Maxwell T. Lieurance

RECEIVED
SEP 29 '76
[illegible]

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Region 3
517 Gold Avenue, SW.
Albuquerque, New Mexico 87102

F.H

2630
September 27, 1976

Mr. James C. Gritman
Acting Regional Director
Fish and Wildlife Service
Denver Federal Center
Denver, Colorado 80225

AA

Dear Mr. Gritman:

We have reviewed the draft recovery plan for the American peregrine falcon (Rocky Mountain southwest populations). The plan is an excellent portrayal of steps that will almost certainly reverse the downward trend of the species as the plan is implemented.

AA-1 We anticipate some administrative delay in implementing the Region 3 (Arizona-New Mexico) Forest Service portions of the plan. The earliest time, on our regular schedule, that we can request the funds would be during our planning for fiscal year 1979 which begins this fall. The plan does not clarify whether this two-year delay is acceptable or whether the peregrine is in such dire straits that the delay could significantly impede recovery for the species.

AA-2 A number of the tasks in our judgment will require more dollars than the plan anticipates. It also seems quite likely that there will be unplanned, unscheduled emergencies that are not provided for in the plan. The plan would be strengthened by suggesting a vehicle for contingencies.

AA-3 The job of determining critical habitat is included as step 11. on page 31. Later on pages 70 and 71 where the budget is summarized by job (and also where the same tasks are summarized by state), task 11. "Determine Critical Habitat" is not listed. While it may be the intent to list only the sub-number jobs which in the aggregate constitute the major number headings, it remains rather unclear as to the degree of urgency which is associated with determining the critical habitat. We feel the plan should spell out the recommended steps and scheduling for completing the task of formally listing "critical habitat." This is vitally needed to meet the intent of Section 7.

Sincerely,

for M. J. HASSELL
Regional Forester

U.S. FISH & WILDLIFE SERVICE
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SEP 30 1976
REGIONAL DIRECTOR
DENVER, COLO.

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FA

BB

September 29, 1976

Mr. James C. Geitman
Acting Regional Director
U. S. Fish and Wildlife Service
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Geitman:

I regret the delay in responding to your letter of August 20, 1976 concerning the review of the draft recovery plan developed by the American Peregrine Falcon Recovery Team (Rocky Mountain/Southwest Population).

The Department is currently funding a 4-year study to monitor active eyries and to locate unknown and potential eyrie sites. This study is now in its second year. Any additional activities outlined in your proposed budget will be dependent on whether ours is supplemented by the State legislature.

BB-1 I disagree with the definition of a "breeding pair" as proposed by the Recovery Team, which suggests that each pair would raise at least one young. Even with manipulation of clutches, this would not be possible as the ability to raise young varies with pairs and also with other external natural factors unrelated to human activities. Natural mortality likely accounts for approximately 33 percent of the loss of eggs and young prior to fledging. Assuming this mortality, it would require a breeding population of 150 pairs to insure that 100 pairs fledged at least one young.

BB-2 Another point I would like to bring out is that the prime objective, if met, would not necessarily reestablish the American peregrine falcon as a self-sustaining population. As outlined in Mr. W. O. Nelson's memo of July 10, 1976, "A recovery plan is a guide that delineates and schedules those actions required for securing or restoring an endangered or threatened species as a viable self-sustaining member of its ecosystem. . . Therefore the basic objective is to create a situation in which the animal is no longer Endangered or Threatened by man, and can assume a natural

U.S. FISH & WILDLIFE SERVICE
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OCT - 6 1976
DIRECTOR
DENVER, COLO.

role in its ecosystem with assurance that measures will continue to prevent it from reverting to Endangered or Threatened status." A better alternative objective would be to increase Anatum peregrine populations in the Rocky Mountains and Southwest to the level the present environment will support.

Thank you for allowing me to comment on the Draft Recovery Plan.

Sincerely,

Ted L. Clark

TED L. CLARK
Director, Wildlife Division

TLC/PBU/jg

Cy. picked up by
Gerald Craig 1/24/77
(memos only) wh

S. Hamilton 10/18/76
Byan 10/19/76
10/18/76

SE/Falcon,
American Peregrine -
Recovery Team

Parr 10/19

OCT [illegible] 1976

MEMORANDUM

DD

To: Director, FWS, Washington (SE)

From: Regional Director, Region 6

Subject: American Peregrine Falcon (Rocky Mountain Southwest population)
Draft Recovery Plan

On August 18, 1976, we sent copies of the attached draft recovery plan for the American Peregrine falcon (Rocky Mountain Southwest population) to the attached list of involved States and other Federal agencies for their comments. We have received responses from eight of the 13 States and 19 of the 24 Federal agency offices. The responses, which are attached, generally have been enthusiastic and compliment the Team for the quality and comprehensiveness of the plan. We recommend that the plan be approved with only a few changes. The few pages of the draft plan containing these changes could be reprinted separately and inserted in the plan to replace the old pages rather than reprinting the whole plan. This procedure would save both time and money. From our analysis of the comments and the plan we recommend the following changes:

DD-1 1. Budget pages 69-70. The categories 1st yr., 2nd yr., 3rd yr., 4th yr., and 5th yr. need to be equated with fiscal years. Page 67, paragraph 3, last sentence - "The budget has been developed only for those jobs which the Recovery Team believes should be completed within the first five years after the plan is approved." implies that, if the plan is approved in FY 77, the 1st yr. is FY 78 or possibly FY 77. This needs clarification. There also should be more flexibility in the budget time schedule. Some of the tasks budgeted for the first year have already been started. Some agencies require 1 year lead time, others 2 years to get programs funded. Page 67, "Budget" should be rewritten to specify clearly what fiscal years are intended to correspond to 1st yr., 2nd yr., etc. We suggest FY 78 correspond to the first year if possible. Those agencies which have a 2-year budget cycle should plan to do the 1st year's work in FY 79. Page 67 should state that pp. 69-100 reflect general estimates and times and the Team should be contacted for more exact and current information. After approval of the plan, the Service or the Team should organize a coordination meeting of the agencies involved to insure that any projects which have to be done cooperatively are programmed for the same fiscal year and to put together a tentative budget and time schedule which corresponds more closely to the actual funding process. This budget would be a working document which would be updated regularly by the Team. Agencies should keep the Team informed on their current funding situation.

DD-2 2. Location of Eyries. Agencies which are assigned to analyze presently used nesting locations and the surrounding areas (task 1111) or to provide protection and observation at eyrie sites (tasks 1121, 1221, 1223, 131, 132, 1331, 1332, 211, 231, 232, 333) will have to know where the eyries are. Before the plan can be implemented the Service must resolve the question of getting and releasing eyrie locations. Any decision not to release exact locations to the public will have to conform with the Freedom of Information Act, if the Service keeps records of eyrie locations.

DD-3 3. Both North and South Dakota have pointed out that accomplishing jobs 1221 and 1223 may not be possible on private lands. Revisions of the plan should recognize this and reintroductions and land acquisitions should be planned accordingly.

DD-4 4. Page 31, Task 11 is listed as "Determine critical habitat." Only the Secretary of Interior can make the legal determination of critical habitat, a responsibility which he has delegated to the Director of FWS. This task should be changed to "Identify essential habitat" and the first sentence describing the task should be changed to "Habitats essential to the ...." On page 39, task 123 should be changed to read "Manage essential habitat..." and task 124 should be changed to real "Manage essential habitat." In the fifth line of this task description "critical habitats" should be changed to "essential habitats." On page 40 in the first sentence "(critical habitat)" should be changed to "(essential habitat)." The legal determination of critical habitat should be listed as a task and assigned to the Service in revisions of the plan.

DD-5 5. Page 109 - List of Individuals. Add the name of Stan Kohn, non-game biologist, North Dakota Game and Fish Department, Bismarck, North Dakota 58505.

DD-6 6. Appendix B should contain the survey form to be used for recording data as well as the description of procedures to be followed.

DD-7 7. International (Western Hemisphere) Coordination. On page i "International coordination to eliminate application of persistent pesticides, especially in Latin American countries where peregrines and their prey may winter" is listed as one of the four priority programs which must be funded and implemented to halt continuing population decline. On pp. 63-66 tasks under International Coordination are described. These tasks, however, are not included in the proposed budget. If, in fact, international coordination is one of the four priorities, then it should be included in the first 5-year program although, of course, it cannot be completed in 5 years. We suggest the Team include these tasks in the next annual revision of the plan.

DD-8 8. We agree with the Colorado BLM recommendation that a fifth priority program "Protection and enhancement of existing habitat" be added on page i. Several of the tasks are designed to maintain and upgrade suitable habitats. The plan on p. 37 states that "habitat preservation is essential to maintain or reestablish the peregrine into its former range."

In summary, then, we recommend approval of the draft plan. Incorporating the changes listed above would mean revising, reprinting and replacing pages i, 31, 39, 40, 67, and 109. Other changes can be incorporated into next year's revision.

Attachments

FA/SHamilton:cs 10/18/76

Copy sent to SLC AO on 1 Nov. 1976

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

DEC 15 1976

In Reply Refer To:
FWS/OES 310.6

EE

Memorandum

To: Regional Director - Region 6

From: Director

Subject: Recovery Plan for Rocky Mountain/Southwest Population of the Peregrine Falcon

The subject plan, submitted with Mr. Gritman's memorandum of October 19 represents the most complete and outstanding recovery plan received to date. We are impressed; we are also somewhat dismayed at the overall cost. In this regard the plan illustrates the price of allowing a widespread species to reach Endangered status.

We particularly appreciate the sound structure of the step-down, which the plan has rightfully been built around. The great bulk of the plan is disappointing, yet there is nothing in it that we would delete. This can be attributed to the nature and distribution of the species and large number of agencies to be involved in execution of the plan.

Our comments are relatively few and minor considering the magnitude of the endeavor outlined.

We noted in our review many of the same deficiencies as you. Since they are minor, it was proper for you to send the plan on so that both your review and ours can be incorporated into the next revision. All of your comments meet with our support.

cc: Mr. Craig

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

EE-1 Tasks 3221 through 3223 on development of captive release techniques should be coordinated with similar efforts on the East Coast to avoid duplication. We would like to see 3222 on use of interspecific foster parents be withheld pending the outcome of similar work by Dick Fyfe in Canada.

EE-2 Task 33 relating to establishment of a research program appears to need five rather than four steps for accomplishment. We suggest adding a 335 to read "Analyze data and recommend changes as needed."

We find, as probably others do, that Objective 4 calling for an elaborate information-education program is impossible to objectively evaluate. We question the need for such an extensive and detailed program, and are not convinced it is needed to achieve the prime objective. It is not being turned down at this point, but will be further evaluated. This goes for making the peregrine an Endangered species symbol. We must look at all Endangered species, and don't want to further the problem of producing favorites. Considering the enormity of the coordination problem with the peregrine among numerous organizations, the periodic newsletter approach to facilitate coordination meets with our endorsement.

EE-3 It is recognized objective 4 and 5 apply to all four peregrine falcon recovery plans. One of the reasons we cannot pass final judgment on these two items is the need for comments from the other three teams and regions. As with objective 4, we can, however, make some preliminary comments on objective 5 calling for National and International coordination and cooperation. It is agreed all four peregrine recovery plans have some common concerns: (1) the absolute necessity to reduce the use of DDT in Latin America, (2) information and education and, (3) certain research and propagation needs. This requires communication and coordination between teams. Objective 51 to accomplish this is valid. Your location makes you and the Rocky Mountain Southwest team the logical groups to undertake this task. Would you be willing to perform this task? With further regard to objective 5, sub-objectives 511 and 512 need to be reworded, especially if you or the team undertake the coordination. The words "and direct" should be omitted from 511 and "recommend for approval" should replace "approve" in 512.

Objective 52, "International coordination," will be a long term project. It is understandable that the team did not budget for it. The Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, and the USA - Mexico Joint Committee on Wildlife Conservation should provide the means to accomplish the objective. Because of its international nature, primary responsibility for this task must rest with the Service here in Washington. The need to begin considering it is being brought to the attention of International Activities by a copy of this memorandum. It is clear that the peregrine falcon's future in much of the United States will be dependent on artificial propagation until task 5222, "Decrease and eventually eliminate international use of detrimental pesticides," is accomplished.

EE-4 We like the definitive nature of the prime objective, "Increase anatum peregrine populations in the Rocky Mountains and Southwest to approximately 100 breeding pairs by 1995." Would this be a self-sustaining population? If task 5222 is accomplished, we would assume so. This needs to be clarified.

EE-5 Several questions have emerged on the proposed budget. The Service is down to do parts of tasks 1111, and 1112 on page 70 and 1121, 1221, etc. on page 71. How were the relative responsibilities of the agencies determined? We also wonder if the peregrine fund would assist with the captive breeding program.

It was noted that the location of ayries must be made known to certain parties in order to implement the plan. What are your recommendations for this? Quite possibly this could be handled as was done with the Indiana Bat.

EE-6 In the proposed budget, we did not find agency assignments for task 121 on monitoring land use changes and task 125 on research on habitat improvement measures.

That is the extent of our comments for now. Obviously no plan is static. We anticipate more suggestions as we implement the plan, and as comments emerge from other agencies, including those which have not responded.

The plan is hereby approved as a guide and for implementation with the understanding modifications will be made in accordance with the above. Please incorporate a copy of this memorandum with the plan followed by your comments on the actions taken in accordance in this memorandum.

Because of the excellence of this plan, we would appreciate your sending a copy to each recovery team and Regional Director. Twenty-five copies should fulfill our immediate needs.

This plan represents an immense amount of excellent work. Congratulations to you, Jerry Craig and the rest of his team.

Attachment

THE TEAM'S RESPONSE TO LETTERS OF COMMENT TO THE DRAFT RECOVERY PLAN

Code of Comment	Response
E-1	All four of the peregrine falcon recovery teams recognize the critical need to eliminate DDT application in Latin American countries where peregrines and their prey winter. The problem is among the first topics to be discussed when the joint committee of the recovery teams meet. This Team is presently not certain as to exactly what course of action should be taken. Undoubtedly, delicate diplomatic negotiations will have to take place and the Team believes the responsibility rests with the Fish and Wildlife Service to bring the problem to the attention of the proper authorities. Until the joint committee of recovery teams has recommended a course of action, the Team thought it best to broadly address international curtailment of persistent pesticide applications. While much detailed information is now available about the chlorinated hydrocarbon syndrome and its deleterious effects upon peregrines, virtually nothing is known of DDT levels in avian prey species present in the vicinity of western peregrine eyries. Studies must be implemented to document chlorinated hydrocarbon levels in their prey, locate southern wintering grounds of affected prey species, and finally determine the history of persistent pesticide application on the wintering grounds. Only by such documentation can the case be proven against persistent pesticide usage in Latin America.
F-1	There are abundant literature citations dealing with peregrine falcon populations on the European continent. In fact, detailed investigations are and have been underway for many years in Europe. For more details, we refer to J. J. Hickey's (1969) *Peregrine falcon populations; their biology and decline*. (Univ. of Wisc. Press, Madison). In the interest of keeping the plan from becoming too voluminous, the Team did not report on the peregrine population status in other countries, but chose to treat its region of responsibility.

G-1 The recommendations have been incorporated into the plan.

G-2 The Team is presently preparing a list of areas which will be submitted for publication as Critical Habitat in the Federal Register. More areas will be recommended for Critical Habitat designation as information becomes available. The Critical Habitat listings will provide the appropriate agencies with the locations they desire.

H-1 Job 1221. refers primarily to protection of habitats on federal, state and municipal lands which we assume can be handled by the appropriate agencies. Should private lands be involved as may be the case with North Dakota, control of activities may be gained through leasing, contracts or memoranda of understanding with land owners. Private conservation organizations can also be important allies when undertaking protective measures on private land. Use of DDT or other harmful environmental pollutants which occur on private lands may be prohibited by the Environmental Protection Agency. Pressure can certainly be brought to bear against an offending landowner through section 7 of the Endangered Species Act if the landowner receives federal funds.

H-2 Eyrie wardens may be hired either by the state wildlife agency, the appropriate land management agency or cooperatively. Great Britain and Scotland have had very good success in protecting their peregrine eyries by enlisting an army of amateur eyrie wardens. The wardens are dedicated individuals who trade off with each other throughout the breeding season. We recommend that eyrie wardens be pressed into service only where a real danger exists that the breeding adults or their young might be captured or destroyed. Generally, the best method of protecting a peregrine eyrie from disturbance or harassment is to keep the location confidential. Unfortunately, eyrie wardens may be the only way to protect those sites which are popularly known.

H-3 The Team agrees that it is dependent upon the states to implement the recovery plan. Should a state be unable to enact important legislation, we assume that protection and recovery of the peregrine will become a greater responsibility of the appropriate federal agencies and that the state will provide assistance where possible.

H-4 Wherever possible, the Team has attempted to show manpower needs in addition to costs to implement each job. Unfortunately, the situation varies so much from state to state that we did not feel confident in making manpower estimates for some jobs. In the future, as more information is forthcoming and we can evaluate the effectiveness of the plan, the Team should be capable of giving more exact manpower and funding estimates.

H-5 The preface to the budget section has been rewritten to give a better description of the purpose of the budget's timetable. In the interest of saving the species, we urge each agency to begin it's budgeting process as soon as possible. Undoubtedly, some agencies will lag behind others because they operate on different target dates for submission of their budgets.

H-6 The recommendations have been incorporated into the plan.

P-1 The last sentence in job 1112. for South Dakota has been deleted. Since no sites are known to have been occupied in the past three years in South Dakota, Task 1111. does not apply to recovery work in that state.

S-1 In recommending budget figures, the Team had to assume that little actual work had been accomplished toward the peregrine's recovery. Each of the agencies are to assess the progress they have made toward accomplishment of the tasks for which they are responsible. The narrative preface to the budget section has been rewritten and should clarify the questions.

T-1	In reviewing causes for the decline in peregrines throughout the West, the Team concluded that loss of habitat was not the primary consideration. However, it is important to protect the existing habitat and that should be accomplished through implementation of Tasks 121., 1221., 123., 124., 125., 131., 132., and 133.
T-2	The proper survey form has been added to Appendix B.
T-3	A cost of $1,000 per site for costs to establish closures under Task 1222. has been added to the budget where appropriate.
X-1	The preface to the budget section has been rewritten to explain why specific fiscal years could not be assigned.
AA-1	The preface to the budget section has been rewritten to better explain budget problems which agencies may encounter.
AA-2	Until the plan has been implemented for several years, the Team cannot predict those contingencies that are likely to arise. Hopefully, sufficient latitude has been incorporated into the budget estimates to absorb unplanned activities.
AA-3	The Team is presently preparing a listing of sites which will be submitted for Critical Habitat designation in the Federal Register.
BB-1 and BB-2	The primary objective and its narrative have been rewritten to address the comments.
DD-1	The recommendations have been incorporated into the plan.
DD-2	The recommendations have been incorporated into the plan.
DD-3	Land acquisition in North Dakota should only be considered after suitable areas have been located as assessed through Tasks 1111., 1112. and 1113. Since it is not likely that those tasks will be accomplished within the next five years, land acquisition programs were not planned for North Dakota or South Dakota.
DD-4	The recommendations have been incorporated into the plan.
DD-5	The recommendations have been incorporated into the plan.
DD-6	The appropriate form has been added to Appendix B.

DD-7 At this time, the Team cannot provide a cost estimate that should be budgeted for international negotiations to eliminate DDT application in Latin America. We hope that a committee made up the four peregrine falcon recovery teams will address the pesticide problems in Latin America and recommend a unified approach to the recovery teams.

DD-8 The recommendations have been incorporated into the plan.

EE-1 The recommendations have been incorporated into the plan.

EE-2 The recommendations have been incorporated into the plan.

EE-3 The suggested wording has been incorporated into the plan.

EE-4 The suggested changes have been made in the Prime Objective and the narrative.

EE-5 In Task 1112., the agencies are assigned responsibility in relation to the number of historic eyrie sites located on lands under their jurisdiction over the habitats to be surveyed. The Fish and Wildlife Service was assigned the responsibility of funding surveys on Indian lands and military reservations. In Tasks 1111., 1122., 1123. and 1124. the Fish and Wildlife Service was assigned responsibility since the telemetry studies would undoubtedly cross state and possibly international boundaries.

The proportion of the budget for 121., etc. which was assigned to each agency was arbitrarily based upon the degree of responsibility of the agency and probable cost to administer the Tasks. Whether an agency was considered or not depended if peregrines were known to nest on lands under their administration.

EE-6 Task 1121. was a typographical error, it should have been 121. Appropriate changes have been made in the plan. With regard to 125., it is assumed that field investigators will take necessary steps to improve nest sites when they encounter problems. For the present, more information is needed about nest site characteristics that should be forthcoming from Tasks 1111., 1112. and 1113. and 1114.

90%

END

3-4-82